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MERION FRIENDS MEETING HOUSE: DOCUMENTATION & SITE ANALYSIS

David Mark Facenda

A THESIS

in

Historic Preservation

Presented to the Faculties of the University of Pennsylvania in

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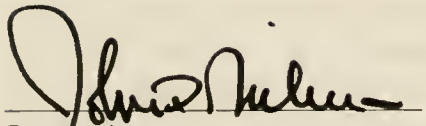

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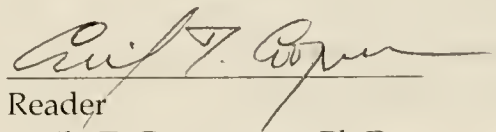

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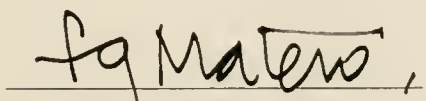

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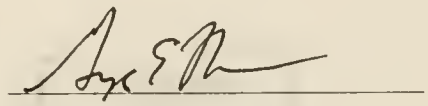

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In 1681, a group of seventeen Welsh Quaker families from North Wales led by John ap Thomas and Edward Jones purchased five-thousand acres of land from William Penn in his recently chartered colony of Pennsylvania. Their land acquisition became part of what was known as the "Welsh Tract," a forty-thousand acre expanse located on the west bank of the Schuylkill River, occupying territory in present-day Montgomery, Delaware, and Chester counties. Officially known as the "Thomas & Jones Company," this first group of Welsh settlers called themselves the "Merioneth Adventurers" after the county in Wales from which they came.

These early settlers left their homeland in order to escape religious persecution. In British Wales, these Quakers were labeled "dissenters" and "non-conformists." They were routinely imprisoned and punished for their beliefs. By law, they were not permitted to build meetinghouses or even to meet publicly or privately before the Toleration Act was passed by Parliament in 1689. William Penn's promise of religious freedom attracted these members of the Society of Friends to the New World. They arrived in 1682 hoping to establish not only a religious community, but also their own Welsh Barony in North America - a contiguous region of religious, cultural, and political

sovereignty.[1] The area they settled in Southeast Pennsylvania on the west bank of the Schuylkill River eventually became known as the township of Merion.

The Merion Friends were among the first Quakers to emigrate to Pennsylvania, and the meetinghouse they built is among the oldest colonial-era structures still standing in the Delaware Valley. The exact dates of construction are unknown, but documentary evidence suggests that Merion Friends Meeting House was built between 1695 and 1715. Surviving physical evidence and vestiges of Old-World building technologies also suggest an early construction date. Although it was not the first meetinghouse erected in the state, it is among the oldest extant meetinghouses to be continuously occupied and used in Pennsylvania and throughout the country.

In 1997, Merion Friends Meeting House was designated a National Historic Landmark by the National Park Service under the authority of the United States Department of the Interior. Its significance includes its associations with the first Welsh-speaking settlement in North America, examples of transported Old-World vernacular architecture, and the evolution of American Friends meetinghouse forms.

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[1] William Penn entertained the idea for the creation of a "Welsh Barony" in Pennsylvania, but the privilege was never enforced. For more information concerning the Society of Friends in Wales, see T. Mardy Rees, *A History of Quakers in Wales and Their Emigration to North America* (Carmarthen: W. Spurrell & Son, 1925).

Merion Friends Meeting House is an exceptional building that warrants investigation and documentation. The meetinghouse has often been noted for its unusual T-shaped plan that distinguishes it from surviving Quaker meetinghouses built both in the New World and in Great Britain. Its timber-framed roof structure is also significant as an example of early English (and Welsh) timber-framing practice in which "cruck" or bent principal rafters are incorporated in the roof system.

Documentary evidence, including a Historic American Buildings Survey (HABS) report from 1997, provides some insight into the unusual design and evolution of Merion Friends Meeting House, but many questions still remain. Interpretations of early meeting minutes and documentation vary. Some historians suggest that the meetinghouse was built in two or more phases resulting in its unique design; others hold that the distinctive T-shaped plan was intended from the beginning. The complete chronology of construction is still unknown. This thesis was written with the intent that a focused analysis of the extant architectural fabric may shed light upon some of the anomalies of the building's design.

Other aspects of the meetinghouse also warrant investigation and analysis. Many significant architectural features survive that have not been thoroughly examined and documented. For example, the frames of leaded casement windows, likely dating from the turn of the 18th century, remain

intact and in place in the upper story of the northern block. The lights and cames have been lost, but the casement frames still reveal their original configuration. Also scattered throughout the building are old floorboards, partition boards, doorframes, and other remnants that likely relate to the building's original construction and were recycled in later alterations. Significant architectural elements such as these warrant more thorough documentation and analysis.

This thesis project involves the review and synthesis of existing documentation, as well as further investigation and analysis of the historic fabric of Merion Friends Meeting House. Extant architectural evidence, including *in situ* woodwork, timber framing, and significant architectural elements, is examined in order to reconcile recent historical documentation and hypotheses of construction chronology with existing physical fabric.

Chapter 1 presents an overview and description of the meetinghouse as it stands today. Chapter 2 introduces two central issues that have continually resurfaced concerning the age and peculiar form of the building. The various interpretations that historians have offered to resolve these issues based on documentary and physical evidence are also considered. Chapter 3 begins an analysis of the *in situ* physical fabric with an examination of the roof structure. Chapter 4 addresses the framing configurations of the balcony and loft. Chapter 5 presents an inventory and analysis of architectural fragments that

have been recycled for new uses, as well as currently unused fragments that survive in the attic spaces of the meetinghouse. Significant features are identified and interpreted to assist in determining the alterations that have taken place throughout the building's history. A conclusion and appendices follow.

CHAPTER 1: CURRENT PHYSICAL DESCRIPTION OF THE MEETINGHOUSE

Built between 1695 and 1715, Merion Friends Meeting House remains one of the oldest surviving houses of worship in the state of Pennsylvania. It is located on a triangular property at the intersection of Montgomery Avenue and Meetinghouse Lane in Merion, Pennsylvania (Figures 1 & 2). The meetinghouse faces South-Southeast toward Montgomery Avenue. A stone wall surrounds the entire site, which includes a 1-¼ acre burial ground to the east of the structure and two horse sheds within the property limits.

The plan of the main structure is T-shaped with the southern section forming the base and the northern section forming the crossing length of the 'T' (Figures 3 & 4). The south volume measures 26 feet 3 inches from east to west by 20 feet north to south. The north volume measures 40 feet 8 inches from east to west by 26 feet 8 inches north to south. Two stone-walled privies are located to the rear of the building at the north corners of the north block.

The meetinghouse is a one-and-a-half-story structure. It rests on a stone foundation with a shallow crawl space, and rises to a height of 30 feet 6 inches from the level of the first floor to the ridge of the intersecting gable roof (Figure 5). The walls of the building are load-bearing masonry constructed of local stone. A stucco plaster applied to the masonry walls circa 1829 survives as an exterior finish. The stucco had been scored to resemble ashlar stone

block, but the incised detail has worn away and is no longer obvious. The scored lines that simulate mortar joints can still be seen on some portions of the exterior walls and are evident in historical photographs (Figure 15).

The principal entry is located in the center of the south gable wall (Figure 6). The main doors to the building are double-leaf, paneled doors (Figure 10). The principal doorway is recessed with plain reveals and a simple wooden surround. The doors are flanked on either side by typical windows – eight-over-twelve-light, double-hung sash with wooden sills and frames, and exterior paneled shutters (Figure 11). A slightly smaller, double-hung sash window is located above the main entry to provide light and ventilation to the attic space above (Figure 12). Segmental arches span over all of the window and door openings. An unornamented, pedimented portico supported by octagonal posts covers the main entry. The entrance portico is a nineteenth century alteration that replaced the original hood roof – a characteristic feature of early meetinghouses throughout the Delaware Valley.[2] Early illustrations of the meetinghouse show a cantilevered hood over the south entry. A pent roof, broken to accommodate the upper-story window, provides additional cover for the ground story windows (Figure 12). There are no openings on the south elevation wings of the north block.

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[2] For more information on the subject of hoods, porticos, and porch additions to meetinghouses, see Francis J. Puig, "The Porches of Quaker Meeting Houses in Chester and Delaware Counties," *Pennsylvania Folklife* XXIV, no. 2 (Winter 1974-75), 21-30.

A single, eight-over-twelve-light, double-hung sash window is located in the center of the west elevation of the south section (Figure 7). The west gable wall of the north block has two openings - a secondary doorway to the south and a typical double-hung, sash window to the north. The door to the side entry is a five-paneled wood door with a simple wooden surround. There is a cantilevered hood over the entryway (Figure 13). A pent roof extends the entire width of the structure. An additional window opening is located directly above the pent roof in the center of the wall. This upper-story window opening has been closed and secured with twin batten shutters (Figure 15). Behind the shutters are the remnants of original late-seventeenth- or early-eighteenth-century casement window frames (Figure 20). A date stone that reads, "Built 1695, Repaired 1829," is located in the northwest gable wall above the upper-story window (Figure 14).

The east elevation is a mirror image of the west, except that the first-story window of the south section has been filled in with stone and covered with stucco (Figure 9). A faint outline of the original opening and the segmental arch above it can be discerned through the exterior plaster.[3]

There are two, symmetrically spaced, eight-over-twelve-light, double-hung sash windows located on the north elevation of the building (Figure 8).

---

[3] An undated watercolor painting by William Breton shows the in-filled opening in the east wall of the south section before the exterior stucco was applied. See William Breton, "Friends Meeting House - Merion, PA," c. 1829, Bb 862 B 756, #10, Historical Society of Pennsylvania.

These windows are situated slightly above the level of the other first-story windows. Their elevated placement accommodates the elevated height of a ministers' gallery located along the interior of the wall (Figure 21).

The first-story south room measures 18 feet north to south by 23 feet east to west. The interior of the room is plainly decorated with unpainted wainscoting and white plastered walls above. The wainscoting is comprised of a series of vertical tongue-and-groove boards, each about 5 feet 8 inches in height, between 7 and 9 inches wide, and ⅝± inches thick. The board pattern alternates between boards that are tongued on both sides, plainly decorated with a beaded edge, and undecorated boards grooved on both edges to receive the tongues (Figure 64). Several rows of wooden benches face north, flanking a center aisle that leads to a doorway into the north room (Figure 16).

The south room is divided from the north room by a white-painted wood partition wall at the juncture of the two sections (Figure 17). The paneled shutters of the partition are retractable, and can be raised or lowered either to open the two rooms to each other or to provide a means for separating them.[4] The doors through the partition are paneled double doors with a plain wooden surround. There is a masonry structure located on the north side of the partition wall that bridges the passageway and supports a

[4] It was a common practice of the Society of Friends for the men's and women's business meetings to meet independently of each other. After the full congregation of Friends met for worship at Merion, the women moved into the south room behind the partition wall to conduct their business while the men remained in the north room for their business meeting.

brick chimney above (Figure 18). It was most likely built circa 1829 when the central chimney was added to the meetinghouse to receive the stovepipes of wood- and coal-burning stoves installed on the ground floor.

The north room is the meetinghouse's principal meeting room. It measures 22 feet 10 inches north to south by 36 feet 10 inches east to west, and rises a full story-and-a-half in height. The current ceiling corresponds to the height of the building's non-gable masonry walls, but it is not original. It was added as a dropped ceiling as part of the 1829 "Repair" campaign. Although it is in poor condition, much of the original higher ceiling survives. Evidence in the attic space above the present ceiling indicates that the meeting room was once open to the collar beams of the principal rafters, approximately 6 feet above the present ceiling location (Figure 19). The casement windows, whose frames still survive in place, were positioned in the gable ends just below the original ceiling height to provide light to the great, open space below (Figure 20).

The wainscoting in the north room is different from that in the south. The boards are generally wider than the wainscoting boards in the south room, typically measuring from 11 to 13 inches wide. They are all 6 feet 6-½ inches high, and ½± inch thick. Each board is decorated with a ½-inch bead on each edge (Figure 64). The boards simply butt against each other, rather than being joined by tongue-and-groove joints.

A ministers' or elders' gallery, also known as the "facing benches," is located along the north wall of the principal meeting room facing south (Figure 21). The ministers' gallery is a tiered wooden structure providing a series of elevated platforms and fixed benches, where the elders and clerk of the meeting traditionally sit while meetings are conducted. The wainscoting directly behind the ministers' gallery rises to 8 feet 8 inches in height. The ministers' gallery is single-tiered. Evidence of nail holes in the wainscoting behind the gallery and the curious height of the hat pegs on the wall over the benches suggest that the gallery was lowered from three tiers to one at some point in time. These changes likely occurred circa 1829 as part of the campaign to "Repair" and update the meetinghouse. There is a single-tiered platform with a bench facing perpendicularly to the ministers' gallery located against both the east and west walls of the north room. These ancillary platforms are twentieth-century additions, probably built when the new flooring was installed. Several more rows of moveable wooden benches rest directly on the floor and face north. A center aisle leading to the ministers' gallery divides the room in half.

There are two boxed winder staircases located in the southeast and southwest corners of the north room that lead to a balcony above (Figure 22). The balcony runs the entire length of the room from east to west and extends approximately ten feet from the south wall of the main meeting room (Figure

23). Two wooden columns support the balcony at third points of the span. When the ceiling over the north room was lowered, a partition wall with hinged panel shutters was built to allow the balcony to be closed off when not in use. The balcony is tiered to accommodate several rows of benches that overlook the main meeting room floor. A center aisle divides the rows of benches. The brick chimney mass rising from below the balcony to the roof above interrupts the aisle. Notches in the floorboards and two posts provide evidence of a low, three-foot high partition that once separated the boys and girls who sat in the balcony.

At the back of the balcony, there is a plastered partition wall with a door that leads to a loft area over the south room. This loft area is believed to have been a schoolroom at one time. The south side of the partition wall separating the balcony from the loft is unfinished (Figures 24 & 25). Framing members and lathing are plainly visible from the backside.

The roof system is one of the most interesting features of the building. Part of the framing can be seen from the loft (Figure 51). The roof framing is a variation of a cruck, or bent, principal rafter system and survives as a remarkable example of early Welsh timber-framing practice. The roof system is discussed in more detail in Chapter 3: Analysis of Roof Framing.

CHAPTER 2: CONSTRUCTION ANOMALIES, THE EXTANT RECORD, AND THE VARIOUS PROPOSED INTERPRETATIONS

There are two interrelated and controversial issues that historians and those interested in the history of the meetinghouse have revisited consistently for more than a century. The first involves the chronology of the building's construction, including original dates for the present structure, dates for previous structures (if any existed), and the exact sequence of additions, assuming that the building in its present form is different from its initial configuration. The other issue, often associated with these questions of construction sequence, involves the peculiar T-shaped plan that distinguishes Merion Friends Meeting House from most other Quaker meetinghouses built in the New World and in Great Britain.

Although it has often been referred to as cruciform, the plan of the meetinghouse does not form a cross, but is rather in the shape of a 'T.' The curious T-shaped plan of the building has baffled historians. Many find it difficult to believe that the Society of Friends, a Protestant sect formed in the seventeenth century and persecuted for its religious beliefs, would adopt a building form that so closely resembled the traditional form associated with the established Anglican Church from which it sought separation. Generations of historians have repeatedly examined primary source materials for clues, but interpretations of early meeting minutes, marriage records,

monetary accounts, wills and other historical documentation vary dramatically. Some historians suggest that the meetinghouse was built in two or more campaigns resulting in its unique design; others hold that the distinctive T-shaped plan was intended from the beginning, but executed in phases. There are also suggestions that there was a temporary frame structure, or one constructed of logs, predating the present stone building.

The complete chronology of construction is still unknown. What is known has been drawn from primary source material and interpreted through various physical investigations of the building. The archival evidence is limited and inconclusive. Surviving primary documentation includes portions of both the Merion Preparative Meeting minutes and the Radnor Monthly Meeting minutes.[5] Unfortunately, large segments of the records from the supposed years of construction have been lost. Marriage certificates also have been used to help date the building where references to the meetinghouse are included in the record. A personal accounting of the subscriptions collected and the expenditures paid for construction between 1712 and 1717 was discovered in the 1890s. In light of other written

[5] A monthly meeting for the meetings at Haverford, Merion and Radnor was established in 1684 by Philadelphia Quarterly Meeting. The meeting was originally known as "Haverford Monthly Meeting." It became known as "Radnor Monthly Meeting" in 1796 when the monthly meeting was officially moved to Radnor. Extant records have been preserved under both names.

documentation, it has been interpreted as proof that the present building was not completed until 1713.

A number of historical images, mostly from the 19th century, survive as documentary evidence of the appearance of the building. Some of these images are retrospectives and cannot be relied upon as accurate representations of the structure at a given date. Taken together, however, the images do provide a record of the building's relatively consistent and unaltered architectural form since its completion in the late seventeenth or early eighteenth century.

The date stone located over the attic window in the northwest gable wall is among the most controversial pieces of evidence used to date the building (Figure 14). The inscription in the stone reads: "Built 1695, Repaired 1829." This simple plaque has perpetuated and reinforced the notion that the meetinghouse was built in 1695, but many believe it to be misleading. It was likely placed there in 1829, following the separation between the Hicksites and the Orthodox Friends, when the title to the meetinghouse was relinquished to the Hicksite faction. Although the minutes for the period of separation are missing, material evidence indicates that the most substantial alterations to the original building were made in 1829 when the building was "Repaired." For some historians, the most regrettable alteration during this period was the application of the exterior stucco. Reflecting the fashions of the period, the

stucco was scored to simulate the regular coursing of ashlar stone blocks, disguising the workmanship and more random pattern of the original rubble masonry walls. The exterior stucco also conceals the areas where the north and south sections join, making it difficult to determine whether the sections were built simultaneously or were later integrated.

Although exact dating may not be possible, a general or relative chronology can be developed by integrating documentary and material analyses. As this thesis will show, the meetinghouse was likely conceived of in its present form and built in a single construction campaign. This single campaign may have been executed in phases, for documentary evidence indicates that construction materials were being gathered circa 1703-04 and again between 1712 and 1715. Physical evidence observed in the framing, however, suggests a narrower timeframe. Framing lumber and joists are consistent in species, size, and joinery throughout the building. These consistencies suggest that the same carpenters were involved throughout the process and that the framing was completed during a single campaign. Evidence of a single, integrated roof structure covering the entire building also supports the idea of a single building campaign. According to the documentary and physical evidence, the building was likely under construction and in use sometime around 1695 while interior finishing continued until completed sometime around 1715. Significant alterations

were then made to the building circa 1829, including the addition of a central chimney stack, a dropped ceiling over the main meeting room, and the application of the exterior stucco. Apart from routine maintenance, updates to mechanical systems, and the replacement of the ground-story flooring in the twentieth century, the original fabric of the building has survived relatively intact and unaltered since the middle of the nineteenth century.

Working with limited information in many cases, several generations of historians have proposed contrasting construction chronologies and disparate scenarios to explain the formation of the atypical T-shaped plan. One of the first historians to address the issue of dating the meetinghouse through documented primary source evidence was Dr. George Smith, M.D. In his *History of Delaware County*, published in 1862, Smith argued that the date stone in the northwest gable was deceptive. According to Smith, there was "conclusive" proof that the meetinghouse was built in 1713. The 1695 date "undoubtedly refers to the first meeting-house, a temporary structure of wood erected on the same site. The present meeting-house," he argued, "was erected in 1713."[6] Smith based his conclusions on two separate minutes recorded by the Haverford Monthly Meeting in 1713 that referred to

[6] Dr. George Smith, *History of Delaware County, Pennsylvania, from the Discovery of the Territory Included within its Limits to the Present Time* (Philadelphia: Henry B. Ashmead, 1862), 222.

transferring money to members of Merion Meeting "towards finishing Merion Meeting house." [7] The minutes he cited were recorded as follows:

> 8th day of 8th month 1713:
>
> > "This meeting agrees that Meirion frds shall have the money lent to Rees Howell and Joseph Evans towards finishing their Meeting House."
>
> 12th day of 9th month 1713:
>
> > "The five pounds old Currency formerly lent to Rees Howell and ordered last meeting to merion friends towards finishing their Meeting house are paid in to John Roberts hands for that purpose." [8]

These entries are enlightening and suggestive, yet Smith's logic is somewhat flawed. While these minutes may indicate that the meetinghouse was not completed until 1713, they do not provide conclusive evidence that construction also began in that year.

Smith's reasoning influenced later work on the subject and perpetuated confusion regarding the dates of construction. Theodore W. Bean reiterated

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[7] Ibid., 222.

[8] The minutes that Smith referred to are from the 8th day of 8th month 1713 and the 12th day of 9th month 1713. Smith's transcription of the minutes was inaccurate in his text. The correct items recorded in the Radnor Monthly Meeting Minutes, 1684-1733, Microfilm MR-Ph540, at the Friends Historical Library, Swarthmore College, are reproduced here.

NOTE: The dates of the recorded meeting minutes reflect the "Old Style" calendar. Before 1752, England and its colonies used the Julian calendar year which began on the 25th day of March, the Feast of the Ascension. The first month, therefore, was March with January and February being the 11th and 12th months of the year respectively. Since Quakers did not use the 'pagan' names (January, February, March, etc.) to identify months, preferring the numerical names, it is important to recognize the disparity in dating. The Gregorian calendar, or "New Style," was not adopted by England until 1752. The dates given reflect the dates as they were recorded in the primary document.

Smith's argument in his *History of Montgomery County* published in 1884. Bean also contended that the 1695 date in the northwest gable was misleading. The date stone, Bean remarked, "has been the means of leading many astray, they supposing that the present edifice had been erected at that date, whereas it was the date of the erection of the original building, whose place it supplied eighteen years later. This has now been so long and widely published that the impression will not be so readily removed."[9] Bean merely echoed Smith's assertion and offered no original research on the subject.

On the "fifth day of the Tenth month," 1895, Merion Meeting celebrated the "Bi-Centennial Anniversary of the Friends' Meeting House at Merion, Pennsylvania." An account of the celebration proceedings was published the same year, which included "An Historical Sketch" prepared for the occasion by Mary J. Walker. In her study, Walker acknowledged that "a difference of opinion" existed as to the exact dates of the building's construction.[10] After further review of extant records, however, she believed that at the very least, "with the existing evidence we feel we can justly claim that two centuries have passed since the erection of a part of this house."[11] Walker examined the minutes kept by women Friends in the early years of the meeting and noticed

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[9] Theodore W. Bean, *History of Montgomery County* (Philadelphia: Everts & Peck, 1884), 928.
[10] Mary J. Walker, "Friends' Meeting House at Merion, Pennsylvania: An Historical Sketch," in *Bi-Centennial Anniversary of the Friends' Meeting House at Merion, Pennsylvania, 1698-1895* (Philadelphia: Friends' Book Association, 1895), 10.
[11] Ibid., 13.

that beginning in 1695, and for several successive years, there were entries referring to payments "for cleaning Merion meeting-house."[12] She also noted that the Merion Preparative Meeting minutes that had survived the years between 1702 and 1705, referred to acquiring "finishing and furnishing" items for the meetinghouse, such as hinges, locks, benches, and shutters.[13] For Walker, such items indicated the presence of a more substantial building than a mere log or frame structure. These minutes were convincing evidence that a stone building - or some part of the current form - existed at the time.

Although she did not agree with Smith's interpretation that a temporary log structure remained until the completion of the stone meetinghouse in 1713, Walker conceded to Smith's argument that the building was not completed until 1713. She identified "a paper recently found containing the names of subscribers and amounts contributed in that year for building the meeting-house" which confirmed the speculation that "most of the present building was erected in 1713."[14]

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[12] Ibid., 11.

[13] Ibid., 12. The minutes that Walker referred to are recorded in the Merion Preparative Meeting Minutes, 1702-1705, Microfilm MR-Ph300, at the Friends Historical Library, Swarthmore College. See Appendix B for transcription of selected minutes.

[14] Walker, 12. The "paper" Walker referred to is likely John Roberts's personal account of subscriptions and expenditures for the meetinghouse in which he itemizes the subscriptions received and the expenditures paid toward construction. See John Roberts, Subscriptions collected and expenditures made towards building Merion Meeting house, 1712-1717, Friends Historical Library, Swarthmore College. A transcription of selected entries is also included in Appendix C.

Walker concluded that a temporary meetinghouse likely stood on the grounds prior to 1695, some part of the present stone structure was begun in that year, and additions were made in the interim until the building was eventually completed in its present form in 1713. To bolster her argument, Walker identified a local dwelling house of a fellow Friend "on the highway that passes here" with a date stone "plainly marked 1695."[15] If Friends were building their own residences in stone in 1695, she argued, could they not build their meetinghouse in stone as well? Concerning the accuracy of the meetinghouse's date stone, she argued:

> "Friends are a truthful people, and we are unwilling to believe that they would have so misrepresented their work as to proclaim to the passer-by that this house was built in 1695, if it had not been erected until 1713. As it now stands it differs in appearance from any other ancient Friends' meeting-house, the smaller part being attached to the larger in such a way as to form, architecturally, a cross. Small as it is it has evidently not been all built at the same time, and the north end bears the marks of the greater age."[16]

Unfortunately, Walker does not elaborate upon the "marks of the greater age" that were evident in the north end. From this comment, however, and her

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[15] Walker, 12. Walker may have been referring to the Robert Owen house, also called "Penn Cottage," located approximately two miles west of Merion Friends Meeting House along Montgomery Avenue. The Robert Owen house was built in 1695. See Lower Merion Historical Society, *The First 300: The Amazing and Rich History of Lower Merion* (Ardmore, PA: Lower Merion Historical Society, 2000), 29.

[16] Walker, 12.

statement regarding the "smaller being attached to the larger," Walker seemed to believe that the south portion of the meetinghouse was a later addition.

Walker also touched upon the curious T-shaped plan, noting its variation from other meetinghouses of the period. Her speculation that the building was constructed in phases explained the anomalous form. According to Walker, the T-shaped plan was not intended from the beginning, but resulted from separate building campaigns.

In 1896, Thomas Allen Glenn, a local historian and member of the Historical Society of Pennsylvania, published a substantial work, entitled *Merion in the Welsh Tract.* Primarily concerning the history of Welsh settlement in Merion, it also included what he called "sketches" of the surrounding townships of Haverford and Radnor. Much of his book recorded the ancestral histories of the major families and prominent individuals who first settled the region, and the vast and lasting contributions they made to the Commonwealth of Pennsylvania.

Among the Welsh family genealogies and biographical sketches, Glenn also included a brief account of the history of Merion Meeting House. He specifically addressed the recurring questions of its age and construction sequence. Written less than a year after the Bicentennial celebration, much of Glenn's interpretation of existing documentary evidence echoed Walker's assessment. In fact, Glenn quoted extensively from Walker's published

address to the Bicentennial gathering concerning her analysis of the extant minutes and other written documentation.

Glenn was less hesitant than Walker, however, to infer the existence of a provisional log meetinghouse. He emphatically argued that a temporary structure must have been built before the current building was erected. "That a building, presumably of logs, existed upon the site of the present edifice so early as 1683 cannot for a moment be doubted," he argued, "nor does the writer find anything to disprove that the first stone building was erected in 1695, as currently believed."[17] Glenn based his argument for the 1683 date on a new piece of information. "According to family records," he wrote, "a marriage was performed in Merion Meeting-House 20th of 1st month, 1684."[18] Glenn provided no details of his finding. Neither the family name nor the source of the records was given. Nevertheless, Glenn interpreted this item to indicate that there was a log structure as early as 1683. He concluded that "a shelter of rough logs was immediately erected during the Fall of 1683, and probably prior to Penn's arrival, and continued to serve as a place of worship until the year 1695."[19]

Glenn reinforced the perception that the 1695 date carved in the northwest gable truly commemorated the beginning of a stone construction

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[17] Thomas Allen Glenn, *Merion in the Welsh Tract* (Norristown, PA: Herald Press, 1896), 365.
[18] Ibid., 366.
[19] Ibid., 369.

phase in the meetinghouse's history. He persuasively elaborated upon Walker's theory that the meetinghouse likely was built at the same time as a fellow Friend's house nearby. Robert Owen, a prominent Welsh Quaker and member of the Merion Meeting, arrived in the area with his wife and family circa 1690. In 1691, Owen purchased four-hundred-forty-two acres of land located a few miles to the west of where the meetinghouse presently stands.[20] In 1695, Owen began the process of constructing a stone house to replace a "temporary shelter" used for his residence until that time. As Glenn indicated, the construction of a dwelling house or any permanent structure was not a casual undertaking, especially in that area of the colony during that period. Building a house involved the coordination of numerous artisans and the acquisition of substantial quantities of the various building materials needed for construction. "The erection of a stone house in those days was a momentous event," Glenn argued. "Masons and carpenters had to be brought from the city and lodged with the family until the work was completed. Quarries must be opened, and lime hauled from the kilns then in operation further up the Schuylkill; timbers had to be shaped from the giant trees of the forest, and nails and bolts forged at the nearest smith's shop."[21] Glenn reasoned that while the materials were being assembled and the skilled

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[20] Lower Merion Historical Society, *The First 300: The Amazing and Rich History of Lower Merion* (Ardmore, PA: Lower Merion Historical Society, 2000), 31.

[21] Glenn, 370.

artisans were being lodged and boarded in the area to build Owen's house, the enterprise easily could have been extended to include work on the meetinghouse at roughly the same time.

Although it is unclear whether Glenn examined the building himself, he did offer an interesting construction detail that supported his thesis. Judging the workmanship and materials to be the same, he argued that it was probable that the same stonemasons that built Owen's house were also employed to erect the walls of the meetinghouse:

> "The stone which Robert Owen used for his dwelling, in 1695, was quarried on his own plantation from a peculiar vein of sandstone . . . . The walls of the oldest part of the Merion Meeting-House, namely the northwest end, are of this stone, and, so far as can be ascertained, under the present modern rough-cast on the outside, the original plaster used is of the same composition as that in the Owen house. The manner of laying the walls and the general workmanship of the oldest part appear to be identical. We should, therefore, conclude that the work was done at the same time as Robert Owen's home, whilst the mechanics were in the neighborhood, and that the other parts were added as the meeting increased in wealth."[22]

Glenn's interpretation also suggested that the north section of the building was erected first, and that the south block was built as a later addition forming the base of the atypical T-shape.

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[22] Ibid., 370.

Charles H. Browning's *Welsh Settlement of Pennsylvania*, first published in Philadelphia in 1912, was one of the first major works on the subject of Welsh Quaker migration to the New World. Using primary source material such as original deeds, maps, letters, journals, account ledgers, and meeting records, Browning documented the early development of Pennsylvania's 'Welsh Tract' and the founding of the earliest of the Friends' Meetings at Haverford, Merion, and Radnor. Browning also devoted a substantial portion of his text to the "quaint and charming bit of colonial architecture" known as the Merion Meeting House.[23]

Browning acknowledged that accurately dating the building and determining its exact sequence of construction was difficult due to the paucity of surviving documentary evidence and definitive records. Browning concluded, however, that he was "of the opinion that the stone meeting house of Merion was begun as far back as 1691[;] . . . that the date '1695' was only presumed as the building date, because that was the year in which this meeting had its deed for the burial ground[;] . . . that the stone house was built slowly and as the money was contributed[;] . . . " and that the present form was not completed until after 1713.[24]

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[23] Charles H. Browning, *Welsh Settlement of Pennsylvania* (Philadelphia: William J. Campbell, 1912), 13.
[24] Ibid., 540.

Browning's argument stemmed from his interpretation of the surviving records. He examined the deeds of all of the land acquisitions that together comprised the irregularly shaped site of the Merion Friends Meeting House and burial ground property. From the deeds, Browning was able to determine that in 1691, Edward Rees, an active member of Merion Meeting, purchased a plot of land that included the lot upon which the meetinghouse now stands. In 1695, Rees conveyed a segment of this land to the trustees of Merion Meeting for use as a burial ground. Browning speculated that a portion of the adjacent land was also conveyed to Merion Meeting for the site of their meetinghouse, perhaps by lease, although the actual deed for that transaction was not dated and recorded until 1714. As Browning explained, "It is from the fact that Edward Rees was the grantee for this point of land in 1691, that it is presumed the foundation of the stone meetinghouse was begun about that year, with some understanding with Mr. Rees about the lot. There was nothing at any time to prevent the Merion Friends building their meeting house of stone at that time, even if they did not finish it until 1714."[25] According to Browning, the inherited assumption that construction began on the meetinghouse in 1695 resulted from confusion regarding the date of the land grant for the burial ground, not from any conclusive documentary proof or evidence of actual construction in that year. Browning's proposed date of

[25] Ibid., 552.

1691, however, is also questionable, based solely upon his interpretation of the records, and not on any explicit evidence or conclusive documentation.

Although records show that Friends conducted monthly meetings at the private houses of Hugh Roberts and John Bevan between the years 1684 and 1698, Browning found this fact to be inconsequential in determining whether there was also a public meetinghouse erected during that period. He interpreted certain references in the extant records to indicate the existence of a meetinghouse prior to the present stone building. He quoted the meeting minutes from 1693 referring to a wedding taking place at "'our public meeting place at Merion.' A private house would hardly be thus described," he argued.[26] Browning proposed that the previous meetinghouse could have been constructed of logs or of stone, but there was no documentation "guaranteeing its material, or its quality, nor the location of such a meeting house."[27] Browning was certain, however, that some building for public worship existed before 1695.

Like Walker, Browning interpreted the 1702-1703 minutes from the Merion Men's meetings that referred to acquiring and making certain hardware items and interior furnishings, such as benches and cupboards, to indicate the existence of a newly built and substantial stone meetinghouse by

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[26] Ibid., 533.
[27] Ibid., 533.

that time. Browning introduced a novel interpretation of one particular entry, however. The minutes for the "4th day of the 12th month" 1703 were recorded by the Merion Preparative Meeting as follows:

> "Griffith John is Continued to speake to those that have not paid their Subscriptions towards buildeing the addition to ye meeting house, and to Receive it and to bring an account thereof to ye next meeting."[28]

Browning speculated that the "addition" mentioned here could have been "the stone kitchen and warming room for the females, which adjoined the meeting house, on the west side, and was there many years for the accommodation of Friends coming from a distance."[29] There is no record of an addition on the west side of the present structure, however, and it is unclear what Browning is referring to here. He continued to argue that whatever the addition was, building it did not interfere with the use of the main building since the regular meetings for worship and business were held without interruption. Browning also dismissed interpretations that supposed the "transcept" [sic], or north end, to be an addition to the south block. "Expert builders have examined the building to see if there was anything in this idea," he wrote, "and have declared the house was built all at one time,

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[28] Merion Preparative Meeting Minutes, 1702-1705, Microfilm MR-Ph300, at the Friends Historical Library, Swarthmore College. Also quoted in Browning, 536. See Appendix B for transcription of selected minutes.

[29] Browning, 536-37.

and just as it now stands."[30] Unfortunately, Browning did not identify the "expert builders" nor did he provide details of their examination.

Browning pointed out some interesting inconsistencies with the records. While the extant minutes between 1702 and 1705 provide a somewhat detailed accounting of the subscriptions received and expenditures paid for work done "towards building the addition to the meeting house," the minutes between 1693 and 1699 make no reference to any building whatsoever. If the Friends recorded such items between 1702 and 1705 when the "addition" was being built, why did they fail to record similar items when the bulk of the structure was being built around the advertised date of 1695?

One of the most illuminating pieces of documentary evidence used to date the meetinghouse has been John Roberts's personal account of the subscriptions collected and expenditures paid toward the completion of the meetinghouse between the years 1712 and 1717.[31] This document was discovered in one of the oldest minute books of the Merion Women Friends' monthly meeting by the time of the Bicentennial celebration, and it is what Mary J. Walker referred to as a "recent" and significant finding in her discourse on the meetinghouse. The document is incomplete and partially damaged, but what survives provides a somewhat detailed accounting of the

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[30] Ibid., 537.

[31] John Roberts, Subscriptions collected and expenditures made towards building Merion Meeting house, 1712-1717, Friends Historical Library, Swarthmore College. Also quoted in Browning, 543-48. See Appendix C for transcription of selected entries.

materials and artisan services remunerated during that period. Browning transcribed its contents and concluded that most of the items indicated work done on the interior of the meetinghouse. There was no mention of payments for masonry work or purchases of stone, however. Specific line items included "boards," "sawing," "carpenter work," "lime," "nails," and other "sundries."[32] These account items, combined with the minute entries from the Radnor Monthly Meeting minutes from 1713 that Smith found so convincing, provide further evidence to support the notion that the structure was not finished until 1713.

For years after Browning's book was published, no new evidence was discovered and no novel interpretations were offered. Charles E. Hires, a member of the Merion Meeting and the inventor of Hires Root Beer, published his *Short Historical Sketch of the Old Merion Meeting House* in 1917. It included a collection of photographs and early representations of the building, but no substantial analysis of the structure.[33] John T. Faris's *Old Churches and Meeting Houses in and around Philadelphia* was published in 1926. Faris's work consisted of a number of vignettes on the subject of early religious buildings in the Philadelphia area including the Merion Friends Meeting House. He discussed the question of dating the building and mentioned its curious

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[32] Ibid.

[33] Charles E. Hires, *A Short Historical Sketch of the Old Merion Meeting House, Merion, Pa.* (Publisher unknown, 1917).

"cruciform" plan, but his discussion on the meetinghouse did not offer any new evidence or any fresh take on the building's construction sequence.[34] T. Chalkley Matlack's research in the 1930s led to his extensive compilation of "Brief Historical Sketches concerning Friends' Meetings of Past and Present." Perhaps unaware of Walker's and Browning's work, his sketch on the subject of Merion Meeting quoted the older arguments of Bean and Smith, which supposed 1695 to mark the date of a former log building and gave 1713 as the proper date of construction for the current stone meetinghouse.[35]

More recent interpretations have involved a more thorough review of the extant documentary evidence combined with an examination of the physical structure and building materials. In 1945, Samuel J. Bunting, Jr., an active member, archivist, and clerk for Merion Meeting, published a pamphlet entitled, *Merion Meeting House, 1695-1945: A Study of Evidence Relating to the Date*. In his report, Bunting dismissed the speculation made by Smith and others, and argued that the 1695 date chiseled in the northwest gable date stone did indeed refer to the start of construction of the present meetinghouse. Bunting admitted that there was "no conclusive proof" of the date, but presented some novel arguments based on extant documentation and a

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[34] John T. Faris, *Old Churches and Meeting Houses in and around Philadelphia* (Philadelphia: J. B. Lippincott, Co., 1926), 164-67.

[35] T. Chalkley Matlack, "Brief Historical Sketches concerning Friends' Meetings of Past and Present with special reference to Philadelphia Yearly Meeting," (Moorestown, NJ: 1938), 491-94.

rudimentary examination of the building itself. From his physical analysis, Bunting rejected Smith's assessment based upon four central issues: (1) the building's unusual T-shaped plan, (2) the location of the shuttered partition that divided the men's business meeting from the women's, (3) an analysis and comparison of the wainscoting in both sections, and (4) the in-filled window opening in the east wall of the south section.

Contrary to Smith's assertion, Bunting unequivocally believed that the meetinghouse was built in two phases "with one section both smaller and more primitive than the other."[36] He believed that the south block was built first in 1695, and the north portion was begun as an addition sometime around 1705 and completed sometime around 1713. According to Bunting, this sequence explained the anomalous "cruciform" plan that was so radically different from other Quaker meetinghouses of the period.[37] Bunting wrote, "that such [a form] would have been planned deliberately by the Friends of that time is almost unthinkable. As far as we know, it is the only case of an old Meeting House in this form in the world. The design could easily have originated from the addition of a new part to the original, which probably is

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[36] Samuel J. Bunting, Jr., *Merion Meeting House, 1695-1945: A Study of Evidence Relating to the Date* (Merion, PA: Merion Meeting, 1945), 2.

[37] The Third Haven Meetinghouse (1682-84) in Easton, Maryland predates the Merion Friends Meeting House and is believed to have been built with a similar cruciform plan. The building was significantly altered in the 1790s. The 'T' section was removed and the floor plan was altered to conform to what had become by then the standard American Quaker plan. See Orlando Ridout V, "An Architectural History of Third Haven Meetinghouse," in Kenneth L. Carroll, *Three Hundred Years and More of Third Haven Quakerism* (Baltimore, MD: The Queen Anne Press, 1984).

what occurred."[38] The theory of a dual-phased construction sequence allows the interpretation that the unusual T-shaped plan resulted from an addition and was not intended from the beginning.

Bunting referred to another peculiar design phenomenon that might help explain the anomalies of the building's chronology and form. He noted the fact that the shuttered partition wall used to divide the men's business meeting from the women's was located at the juncture of the north and south sections. As Bunting indicated, most Quaker meetinghouses at the time, including Old Haverford Meeting House, ran the partition from the front of the building to the back, effectively dividing the building into two rooms.[39] The Merion Friends Meeting House was divided differently. Bunting interpreted the location of the shuttered partition at the connection of the two sections to suggest that an original stone wall once existed in its stead before the north addition was built, confirming the idea that the south section was a self-contained, stand-alone structure prior to the addition of the north room.

Bunting also cited the fact that the wainscoting in the south section "is said by those who have examined it to be much earlier in type" than the

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[38] Bunting, 2.

[39] Old Haverford Meeting House is located in Havertown, Pennsylvania, approximately 3½ miles from the Merion Meeting House. The first phase of its construction was completed c. 1700. An addition was added to the north gable end c. 1800 for the use of the women's business meeting. An interior partition to separate the men's and women's business meetings ran from front to back at the juncture of the two sections.

wainscoting in the north section.[40] The rationale for this interpretation is not given and the simpler profile of the wainscoting in the north section suggests the opposite to be the case. Bunting noted a pattern of nail holes in the wainscoting along the east wall of the south section that closely resembled a row of nail holes in the wainscoting above the ministers' gallery on the north wall of the north section. Bunting concluded that the ministers' gallery was attached at one time to the east wall of the south room. The row of nail holes, coupled with the fact that the window in the east wall of the south section had been filled in, led Bunting to surmise that the ministers' gallery was moved from its original location along the north wall of the original structure to the east wall in order to accommodate the construction of the addition. While the north addition was being built, the window in the east wall was filled in and the ministers' gallery was moved there until the addition was completed. "If . . . there was a gallery along the north wall of the original section parallel to the present one, it would have been torn out with this wall when they added the North section," Bunting argued. "The need for a gallery in the men's meeting would give a logical reason for the early blocking up of this old aperture. This

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[40] Bunting, 3. The identities and professions of "those who have examined it" are not given in the report. A hand-written document in the Merion Meeting Archives refers to a "delegation of three gentlemen from the Norriton Presbyterian Church" examining the meetinghouse with Bunting and his father in 1939. Two of the visitors are identified as "carpenters and builders." See Samuel J. Bunting, Jr., Unpublished Papers, 14th -15th days 6th month 1939, Merion Friends Meeting Archives.

closed door or window therefore may be another indication that the Meeting House was not all built at once."[41]

Bunting examined the available documentary evidence for confirmation of his theory. He reviewed the early meeting minutes and the records of early marriage certificates, noting that marriages were commonly held at the houses of meeting members until 1695. Thereafter, all marriages (with a couple of exceptions) were held at the meetinghouse. "The reason seems to be plain," Bunting argued. "Until 1695 the Meeting House, if one existed, was not considered adequate for weddings. However by the Fall of 1695 there was definitely a meeting house in Meirion [sic] that was usable for this purpose."[42]

Bunting followed the logic of Walker and Glenn in his interpretation of the extant 1702-1705 minutes. He concluded that the references to acquiring "hookes," "staples," "benches," "hinges and Locks," were indicative that by 1695 the "Friends [were] dealing not with a mere log cabin but with a building of real value."[43] Bunting suggested that the construction of an addition was begun shortly after the turn of the century, citing references to further construction efforts in 1703-04. Several minutes referred to appointing members to "see for stones to build a meetinghouse, and to gett [sic] workmen

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[41] Bunting, 4.
[42] Ibid., 6-7.
[43] Ibid., 13.

to dig them."[44] Bunting argued that the campaign to build this addition was not completed until 1713, as implied by John Roberts's subscription and expenditure account and the Monthly Meeting records from that period.

Bunting's interpretation of both the extant documentation and portions of the physical building itself is more persuasive than earlier arguments that rely solely on the written record. His dual-phased construction chronology neatly explains how the unusual T-shaped plan resulted from an addition and was not intended from the beginning. It also explains the multiple references to construction materials in the extant record over a period of twenty years. His argument seems somewhat guided, however, by a preconceived notion that the T-shaped form could not have been deliberate. The T-shaped plan of the meetinghouse is undoubtedly peculiar and would seem contrary to Quaker principle, but no documented or physical evidence thus far uncovered has conclusively proved that the meetinghouse is, in fact, an accidental sum of additions. Preliminary examination of the crawl space below the meetinghouse reveals no evidence of a foundation at the juncture of the buildings, which would have been necessary to support a permanent masonry wall. Further excavation and examination of the extant masonry would be needed to determine the possibility of a pre-existing wall at that location.

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[44] Ibid., 12. The specific entry in the minutes that Bunting referred to is from the 5th day of 3rd month 1704, recorded in the Merion Preparative Meeting Minutes, 1702-1705, Microfilm MR-Ph300, at the Friends Historical Library, Swarthmore College. See Appendix B for transcription of selected minutes.

In 1997, the Historic American Buildings Survey (HABS), under the sponsorship of the National Park Service, offered the most recent assessment of the meetinghouse to date. Led by Catherine C. Lavoie, a HABS documentation team reviewed the recorded archival evidence and examined the architecture of the building. Although no irrefutable evidence was discovered, the HABS report concluded that the T-shaped plan most likely was an initial and intentional design:

> "Available written and physical evidence suggests that Merion *was* erected as the Friends originally intended it to be. Without any preconceived notions regarding proper form, the Merion Friends were simply not preoccupied by it. It is conceivable, then, that the recently immigrated Friends constructed a meeting house based on what they knew and so adapted the lay-out of the rural parish churches of their homeland to their needs."[45]

The old-world building technologies evident in the integrated "cruck" roof framing and the surviving casement window frames in the attic walls support the idea that the early Welsh settlers built in a manner that was familiar to them.[46] Since there were no prescribed Quaker meetinghouse forms to imitate at the time, the first members of Merion Meeting simply adopted a familiar

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[45] Historic American Buildings Survey, National Park Service, U.S. Department of the Interior, "Merion Friends Meeting House," Report for the Historic American Buildings Survey, HABS No. PA-145 (1997), 17.

[46] For a discussion of transported British "folkways" in colonial America see David Hackett Fischer, *Albion's Seed* (New York: Oxford University Press, 1989). Fischer traces the social and cultural origins of the first English-speaking colonies in the New World to the specific regions of England from which the original settlers had emigrated. Although these folkways remained plastic and dynamic, the early settlers still retained and reproduced what they knew best, including what Fischer calls their "Building ways."

structural form - that of the parish churches they knew in Wales - and adapted it to their own use.

Before the Acts of Toleration were passed by Parliament in 1689, British Friends were not permitted by law to build meetinghouses or even to meet publicly or privately. Meetings were held secretly in the homes of meeting members, in barns, or in open air sites. Consequently, an established meetinghouse form had not been developed by the turn of the eighteenth century. Transplanted New-World Quakers experimented with a variety of forms. The Burlington Meeting in New Jersey, for example, built a hexagonal meetinghouse in 1683. Third Haven Meeting in Easton, Maryland constructed its own cruciform structure in the 1680s. The Bank Meeting House at Front Street in Philadelphia, built in 1702, incorporated a square plan. These early 'American' meetinghouse forms, including Merion, are significant architectural artifacts from a period when the Society of Friends were beginning to define themselves in their New-World context and the American Quaker meetinghouse form was being developed and tried. Given this context, the creation of a T-shaped meetinghouse at Merion seems more consistent than anomalous.

It is also important to note that before the early nineteenth century, Christian churches were traditionally 'oriented' - meaning that they were sited with the altar at the east and entrance at the west. To both symbolically

and programmatically separate themselves from the established church, meetinghouses were intentionally 'dis-oriented' (facing south like Merion) relative to other ecclesiastical buildings, and sited according to the convention for domestic structures.[47] The early members of Merion Meeting may have borrowed a familiar form from the rural parish churches of British Wales, but they oriented their structure as a domestic building - as a meeting *house*.

According to the HABS team, the present design of the meetinghouse was conceived of originally and then executed in stages over an extended period, spanning two decades from 1695 to 1715. Their research suggested that lengthy building campaigns were not unusual, and that the occupation of partially completed structures was common among early Friends meetings. According to HABS, the south section was begun and in use as early as 1695. It was completed by 1705 as supported by the extant minutes recorded between 1702 and 1704. At that time, the entire congregation used the south room for worship. The loft above provided separate space when the men and women divided themselves for business. During the same period, stone was being gathered, as the extant minutes suggest, and the meeting began plans to build the north section of the structure. The north section may not have been completed until as late as 1712. The entire structure was then put under one

[47] For further discussion of the cultural context that influenced the development of the American Quaker meetinghouse form and the significance of building orientation, see George E. Thomas, "Disoriented and Contrary: Observations on the Form of the Quaker Meetinghouse" (Historic Fallsington Archives, Fallsington, Pennsylvania, 1985).

roof sometime between 1714 and 1715. The report concluded, "The meeting house was not fully functional until it achieved its current and final form."[48] In its completed form, the north room became the principal meeting room, and the south room became space for the women's business meeting with a retractable partition between the two. The loft over the south room was later adapted as a schoolroom.

The disparate interpretations of the extant documentation reviewed here illustrate the ambiguity and imprecision involved in relying solely upon the written record to answer specific questions involving the meetinghouse's construction chronology and its anomalous T-shaped form. The archival evidence is suggestive, but not conclusive. The most convincing arguments, those of Bunting and the HABS team, combined clues gathered from the written record with general analysis of the surviving physical evidence to shape their respective theories. But even these interpretations offer conflicting conclusions. Part of the difficulty is due to the limited amount of accessible and definitive physical evidence. The exterior stucco, for example, conceals areas that might indicate how the masonry walls of the two sections were integrated. Nevertheless, until more conclusive documentary evidence is discovered, the *in situ* physical evidence remains a significant and

[48] Historic American Buildings Survey, 17.

complementary source of information and answers, and certainly warrants further investigation and documentation.

European settlers introduced diverse building technologies to the New World. Before new technologies and building practices could easily be disseminated, incorporated and improved, however, the earliest immigrant builders - carpenters, masons, and other artisans - continued to ply their crafts and trades in ways that were most familiar to them. The structures they built reflected their cultural and regional origins. Transplanted precedents of Old World building design and practice survive in many of the structures that date from the early colonial period. The roof framing system of Merion Friends Meeting House is a unique example of such transplanted Old-World design practices.

David T. Yeomans, a structural engineer and professor of structural design and history at the University of Liverpool, has studied the evolution of timber roof structures in both Britain and the New World. As he explained,

> "during the 17th and 18th centuries, when America was still being settled, a revolution in structural design was taking place in England. The primitive roof structures of the Middle Ages were giving way to more modern forms of roof truss, variations of which are still being used today. Thus, British carpenters may have brought with them to America two distinct types of roof - one essentially medieval in character, the other 'modern.'"[49]

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[49] David T. Yeomans, "A Preliminary Study of 'English' Roofs in Colonial America," *Bulletin, The Association for Preservation Technology*, Vol. 13, No. 4 (1981): 9.

The roof system of Merion Friends Meeting House is exceptional in that it is a combination of both old and new technologies and reflects the Welsh heritage of its builders. It also marks an interesting point in the evolution of truss forms. The unique "truss" design incorporated in the meetinghouse is an intermediate evolutionary link harkening back to medieval roof types and anticipating the development of the modern truss system.

The roof system of Merion Friends Meeting House is comprised of intersecting gables of identical heights. Heavy-timber, A-frame principal rafters form the basic structure of the roof. A unique feature of the principal rafters is their curved bases (Figure 26). This "cruck" shape is a variation of the medieval cruck truss found extensively in western England and throughout Wales.[50] Medieval cruck framing used pairs of curved timbers rising from sills near the ground to the apex of the roof. The bent members, or "blades," acted as both posts and principal rafters. Traditionally, cruck members were made from naturally bent trees. The principal rafters in Merion Friends Meeting House are not true "cruck" members, however, since they were not fashioned from naturally curved timbers. The bases of the rafters were cut from wide lumber in the shape of cruck members, as evidenced by the directional grain of the wood. The curved feet of the rafters are joined to plates resting directly upon the building's exterior masonry

[50] M. R. Bismanis, *The Medieval English Domestic Timber Roof* (New York: Peter Lang, 1987), 227.

walls. The curvature of the principal rafters allows the load of the roof to be transferred vertically to the masonry below.

Typically, the principal rafters of the meetinghouse are coupled with horizontal collar beams (Figure 27). These collar beams are trussed-up by off-center, kingpost-struts. (Although these vertical members do act as kingposts by trussing-up the collar beam, they are not technically "kingposts" since they are not suspended from the apex of the roof structure.) The kingpost-struts are dovetailed into their respective collar beams and corresponding principal rafters. Flanking diagonal struts or braces provide additional support to the structural frame. A series of joists runs horizontally between the collar beams of the principal rafters and from the endmost rafters to the masonry gables, imparting lateral support to the entire structure (Figure 30). (Before the ceiling was lowered in the north section circa 1829, these joists were also used as ceiling joists, providing a surface to which lath and plaster were attached, creating a great open space for worship below.)

Instead of a ridgepole, the principal rafters are pinned together at the ridge with pegs. The rafters are joined and reinforced horizontally with offset purlins that span the distances between each bay (Figure 28). The heavy-timber purlins support a series of intermediate common rafters. The common rafters that extend above the purlins are pinned at the ridge and are connected to the purlins with mortise-and-tenon joints (Figure 29). The common rafters

below the purlins continue the roofline past the cruck members and beyond the outside plane of the exterior walls, and rest on a second plate supported by outlookers that extend from the rafter plate forming an overhanging eave. Lathing for the roof shingles is nailed directly to the principal and common rafters.

Four of the five principal rafter assemblies that comprise the roof structure follow the typical framing pattern. The center pair of principal rafters in the north section involves a variation, however. In order to accommodate the juncture of the intersecting roof sections and to allow for an open space below, a distinctive and ingenious alteration was incorporated in the framing (Figures 31 & 32). The collar beam of the center pair of principal rafters was extended from the north principal rafter to connect perpendicularly at the center of the collar beam of the northernmost pair of principal rafters in the south section. The two collar beams were connected by a mortise-and-tenon joint. (This connection between the two roof sections was compromised when the chimney was added circa 1829. The extended collar beam of the center principal rafter assembly was cut to accommodate the passage of the chimney mass through the roof. Additional framing members were jerry-rigged around the chimney to compensate for the structural alteration. Further details of this alteration are discussed in Chapter 5: Analysis of Architectural Fragments.) The south principal rafter of the center

assembly bends to connect with its extended collar beam, forming a miniature "cruck" (Figure 33). The purlin that crosses above the extended collar beam runs the entire span between the two flanking principal rafter assemblies in the north section, and is pinned into the corresponding principal rafters. The short principal rafter of the center assembly is joined by mortise-and-tenon with both the crossing purlin and its own extended collar beam (Figure 32).

In addition to its significance as an example of transplanted Old-World building technology, an understanding of the roof system of the Merion Friends Meeting House can also provide information pertinent to the issues of its construction chronology and the formation of its T-shaped plan. The roof system has been examined for clues in the past. Penelope Batchelor, a Historical Architect with the National Park Service in Philadelphia, studied the roof configuration in 1980. In an unpublished report, Batchelor concluded that either the two buildings were built together, or the north section was added to the south. She based her conclusion on the integrated connection at the juncture between the center "truss," or pair of principal rafters, of the north section and the northernmost "truss" of the south section:

> "If built together this extended tie beam of the center truss was an ingenious method of transferring the loads to the tie beam of the first south truss where the two buildings adjoined with no wall below to receive the loads. If the north building was added, this load transfer

method was needed when the south building north wall was removed."[51]

Further examination of the roof framing supports her theory. The upper surface of the south principal rafter of the center assembly shows no evidence of having had shingle lath fastened to it. There are no nail holes or ghost marks where roofing lath would have been attached if the northern section had been independent before the addition of the south block. This suggests that the connecting roof to the south has always protected this portion of the framing system and that the north section of the roof was either contemporaneously built or a later addition to the south roof.

An examination of the design and assembly of the individual components of the roof system also suggests that the entire structure was most likely built at one time. The mechanics of mortise-and-tenon joints dictate a certain sequence of construction and often prove many speculative scenarios impossible. Based on the evidence *in situ*, a logical assembly sequence can be discerned. First, the rafter plates had to be placed upon the masonry walls with the appropriate mortises cut into them to receive the tenons of the principal rafters. The rafter plates at the juncture of the north and south sections were also connected with mortise-and-tenon joints. Investigation of the framing revealed that the plate on the east wall of the south section was

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[51] Penelope Hartshorne Batchelor, "Structural History of Merion Meeting House," Unpublished report, National Park Service, Philadelphia, PA, 1983.

joined by mortise-and-tenon to the short plate on the south wall of the north section (Figure 54). This integrated connection suggests that the roof framing was designed and built as a single structure. (The corresponding connection at the western juncture of the sections has been altered from its original configuration and does not follow this pattern. This discrepancy is discussed in Chapter 5: Architectural Fragments).

Each bent, or triangular assembly, including its twin principal rafters, cross beam, kingpost-strut, and diagonal struts, was likely assembled on the ground, and then hoisted as one unit to its position on the rafter plates. Incised roman numerals, used to identify the placement of pre-fabricated structural members within the framing scheme, can be seen on each member near the intersecting joints. The sequence of raising the bents can be estimated by examining the joints and determining the necessary order of assembly. The mortise-and-tenon joint at the connection between the collar beams of the northernmost pair of principal rafters over the south section and the center pair of principal rafters in the north section indicates that the assembly over the south section had to be placed first. With the northernmost assembly over the south section in position, the center assembly of the north section could be set and pegged in place.

The next major undertaking involved setting the double-length crossing purlin over the collar beam at the "cruck" foot of the south principal

rafter of the center pair. The more complicated mechanics of this connection involved a modification of the mortise-and-tenon joint (Figures 34 & 35). A simple mortise was cut in the purlin. The rafter was then altered to accommodate it. A portion of the rafter was notched out to receive the purlin. A connecting joint was made by cutting a free-floating or loose tenon that fit into both the mortise of the purlin and into a corresponding notch in the rafter. An inch-and-a-half thick piece was also cut from the rafter directly below the position of the purlin. After the purlin was positioned, this piece was then reinserted as a wedge to tighten the connection before the entire assembly was pegged.

The mortise-and-tenon joints that connect the purlins to the principal rafters and the joists to the collar beams of the assemblies dictate that the adjacent bents were placed into position after the center assembly was set. The stone gable walls were likely built up to the level of the collar beam joists. After the joists were set in position, a leveling plate was placed over the joists and the masonry work was continued to the peak (Figure 52). The common rafters and outlookers were likely added after all of the principal rafter assemblies and purlins were positioned.

The sequential assembly of the roof structure suggests that it was designed originally as a fully integrated system, and was therefore built at one time. The *in situ* evidence does permit the possibility that the southern section

of the roof was built first, perhaps as cover for the south block before the northern section was built, but the consistent materials and integrated form of the structure in both sections more likely indicates that construction was planned and phased as a single building campaign.

The framing of the present balcony in the north volume and the loft above the south room also warrant discussion. Clues to specific questions concerning the sequence of construction can be found in the sizes, shapes, appearances, joinery, and configurations of the structural framing.

Various sources have speculated that the ceiling over the south room may have been lowered at some unknown date to provide more space for the loft above. Some have interpreted the height of the plaster to indicate that the ceiling was once at the height of the eaves or at the level of the tops of the masonry walls. A rough plaster finish still covers the east and west stone walls to the height of the rafter plates in the south section (Figures 24 & 25). (A later application of plaster raised the height another thirty inches). The floor joists that support the loft floor and suspend the ceiling over the south room are positioned 2-½ feet below the height of the rafter plates. The disparity between the height of the plaster and the level of the ceiling has been interpreted to indicate that the position of the loft floor was altered.

An examination of the joists over the south room, however, does not support this theory. The joists are set somewhat randomly on approximately 15 to 16-inch centers and span the entire length of the room from east to west. They are pocketed directly into the masonry walls. The masonry between the

joists is not plastered and shows no sign of disruption or retrofitting. The joists are all 10-½ inches in height with random widths ranging from 3-¼ to 4-¼ inches. Saw marks indicative of pit-sawn lumber and suggestive of an early date are evident on many of the joists. Several joists also show characteristics of hand-hewn lumber - broad axe and/or adze marks - on one face with pit-saw marks on the other, indicating that a hewn log was sawed in half and then cut to dimension to form two separate joists. From all observable evidence, the joists appear to be integral with the masonry and in their original positions.

The reason for plastering the masonry above the joists may simply have been to cover the exposed stone and present a roughly finished surface. The gable-end wall is also partially plastered (Figure 51). The height of the plaster is approximately 12 inches below the top of the window opening. The masonry above that is bare. It is also worth noting that the joists that run between the collar beams of the principal rafter assemblies show no signs of being finished to create a ceiling like that over the north section. There are no visible nail holes, lath marks, nor any staining from applied plaster. Unlike the upper portion of the north section, evidence suggests that the roughly finished loft was never meant to serve as an openly public space. If it was intended to be finished in the same manner as the north section, it was never completed.

Closer examination of the loft floor raises additional questions. The top sides of the joists do not show signs of previous nailing, yet the present floorboards appear to be recycled. The floor seems to have been installed in the 19th century as evidenced by the predominant use of cut nails to attach the boards. Several floorboards, however, retain rose-headed, hand-wrought nails. These wrought nails do not correspond to the pattern of floor joists and, therefore, indicate a previous use. Modern wire nails are also prevalent (perhaps dating from more recent investigations requiring the reassembly of the floorboards). If the current floorboards are the original flooring (i.e., the first to be installed on the joists) as evidenced by the corresponding nail holes in the joists, then what type of flooring, if any, preceded the current configuration? There are no nail holes to indicate previous flooring.

Another curious observation involves the lack of evidence indicating the location of an early staircase to the loft from the south room below. A former staircase would require the use of a header – a short structural member fastened between parallel full-length joists to support intermediate shorter members – in order to allow the stair to pass through the framing. No headers survive, and none of the extant joists shows evidence of previous headers within the framework. This suggests that there was no direct access from the ground floor of the south room to the loft above. There is speculation that an exterior staircase on the north wall was used to reach the loft before the north

section was added. As that theory explains, when the north wall of the south section was demolished to accommodate the addition of the north section, the exterior staircase was demolished as well. With the north section added, the staircases built to reach the newly built balcony also granted access to the loft. The theory of an exterior staircase has not been confirmed by physical evidence.

The balcony overlooking the north room poses its own set of questions. The current design is not especially complicated, but physical investigation has revealed the possibility of a previous configuration. The current balcony structure is comprised of two parallel summer beams running from east to west at different heights and a series of perpendicular joists spanning between them to form inclined tiers (Figures 36 & 37). The north, or front, summer beam is set at a height approximately 8 feet above the ground floor plane. It is pocketed into the east and west masonry walls of the north volume and is supported by two intermediate posts. The rear support beam is located at the intersection of the north and south blocks at the same height as the loft joists and has also been set into the masonry. All of the balcony joists are 2 inches wide by 7-½ inches high, set on 24-inch centers. The joists are mortised into the respective beams and pocket into the walls where necessary. The more precise dimensional lumber used to frame the balcony and the uniform marks of machine milling indicate that the balcony framing was a later addition.

The current balcony was likely built during the 1829 "Repair" campaign when the chimney was added and the ceiling over the north section was lowered. The joists that were added to form the dropped ceiling over the north section at the height of the rafter plates are of similar dimension and appearance as the framing members of the balcony, suggesting a concurrent construction phase (Figure 37).

The south, or rear, summer beam of the balcony structure is a recycled member. The beam measures approximately 25 feet in length by 8 inches wide by 10 inches high. The joists of the current balcony are set in slots cut into the north face of the beam. Unoccupied mortises on the south face, however, indicate a former use (Figure 38). These mortises are 3-½ inches wide and are cut to receive a 4-inch long by 1-¼-inch high tenon. Evidence shows that the joists that once occupied the mortises were pegged from the top. Fragments of tenons and pegs remain in some of the mortises where the old joists were broken during removal. The mortises are positioned regularly along the south face of the beam on 17-inch centers. The regular mortise pattern stops approximately six feet from the east end of the beam. There are also unoccupied mortise pockets cut for vertical members on the top face of the beam with corresponding augered peg holes on the south face (Figure 39). These mortises perhaps corresponded either to posts for a framed partition or possibly a balcony railing.

A distinct line separating areas of soiled and relatively clean surfaces can be seen on the south face of the beam (Figure 42). The line runs horizontally just below the mortise pockets. The surfaces above the line and between the mortises are soiled, whereas the areas below the line are not. This demarcation line suggests that a ceiling may have hung from the underside of the old joists. A white stain is also evident, perhaps resulting from contact with plaster. The soiling was likely due to the accumulated dust and dirt that settled in the spaces between the joists on the top side of the ceiling. The lower portion of the beam may have remained relatively clean if either it was exposed to the open air below, or if a partition wall or wood paneling protected it at one time. Nails in the south face unassociated with the present balcony configuration suggest the latter to be the case.

Although it is difficult to freely examine every facet of the beam due to its partially concealed location, enough visible evidence exists to draw some preliminary conclusions. There is no definitive proof as to the previous use of the beam, but evidence suggests that the beam is not in its original position. The size, shape, and location of the south facing mortises indicate that the beam once supported lateral joists. The vacant span at the east end of the beam suggests the location of a stairwell where a header would have compensated for the remaining joists in the series. The location of the beam at the same height as the loft joists suggests that it might have been used to

support a previous joist system running north to south. The six-foot break in the pattern at the east end of the beam would provide ample space for a staircase in the northeast corner of the south room (as it is positioned now) and solve the problem of access from below. This is unlikely, however, since there is no evidence of joist pockets in the masonry of the south wall which would be necessary to receive the corresponding joists. As stated above, the present joist system appears to be original. The position of the beam itself also undermines this theory. The beam is pocketed in the masonry at the corners of the intersecting 'T' to a depth of approximately 12 inches on each side. The westernmost mortise is positioned partly inside the wall plane, making it impossible for a joist to extend perpendicularly without interfering with the masonry (Figures 40 & 41). The beam must have been moved to its present location when the current balcony was built.

The former location and use of the beam is unknown. From the physical evidence, it is feasible that the beam was part of a previous balcony configuration. The mortises on the south face and the mortises for the vertical members suggest that the beam was positioned as a leading edge, perhaps running the full length of the north section from east to west. The lateral joists would have had to connect to a second beam which is no longer in place. The beam may also have been recycled from a previous structure, although this is not likely since the mortise-and-tenon details match those used elsewhere in

the building. Unfortunately, all of the accessible physical evidence thus far examined is inconclusive. The beam definitely was designed and fashioned for a previous use, but its former location has not yet been determined.

In addition to the recycled beam used in the framing of the current balcony, other architectural fragments can be identified both *in situ* and in adapted uses throughout the meetinghouse. An inventory and analysis of these architectural fragments may assist in determining the sequence of alterations that have taken place throughout the building's history. The following is an analysis of several significant architectural fragments identified during the material examination of the meetinghouse.

Loft partition:

The partition wall that separates the present balcony from the loft space was constructed almost entirely of recycled parts (Figures 24 & 25). Random width boards positioned vertically and nailed to the collar beam of the principal rafter assembly above provide the basic structure of the current partition. Several additional boards positioned horizontally and diagonally reinforce and help stiffen the wall. Sawn-oak lathing attached to the north side of the vertical boards provides a surface for the plaster finish to adhere. The south face of the partition remains unfinished. Many of the vertical boards are stained with what looks like plaster or mortar. Some of the boards have patches where they have been white washed. The stains are relatively

large. The patterns are irregular and do not correspond to plaster lathing. Some of the boards appear to have had previous uses perhaps related to the construction process as scaffolding planks or temporary scantling.

Several boards appear to be recycled flooring. These boards vary in width, ranging from seven to 8-½ inches wide, but all measure approximately one inch thick. There are stains across the faces of the boards that measure roughly 3-½ inches wide (Figure 50). These stains occur in a regular pattern on approximately seventeen-inch centers. The dimensions and pattern of the stains suggest that these boards were the original floorboards that corresponded to the joists of the recycled balcony beam (as discussed in Chapter 4). Hand-wrought nails and nail holes can still be found in the center of these joist marks on many of the boards. This evidence suggests that pieces of a former balcony were reused when the current balcony and loft partition were built.

One of the recycled boards of the current loft partition is different from the rest. It measures 12-⅜ inches wide by one inch thick and is decorated with a simple bead on one edge. The beaded detail on the board is unlike the profiles found on the wainscoting in the ground floor rooms, but is similar to the ground floor baseboards. It is currently in two pieces, positioned directly above and below the window opening in the loft partition wall (Figure 53). The two segments are in line with each other and appear to have been part of

a single piece at one time. They were likely cut when the window was retrofitted into the wall. Diagonal bracing supporting the lower segment also suggests that the board had been cut and was reinforced after it was detached. As a single piece positioned in place, the board would have measured 11 feet long. The former use of this board is unknown. It was likely part of the former balcony, possibly serving as a horizontal baseboard at the front of the balcony or as part of the balcony railing wall.

The window in the partition wall appears to have been added after the wall was built to allow air to circulate and light to enter the balcony from the south. The window is a recycled single sash of twelve lights, three high by four wide. The window frame is pieced together from disparate members. The window can be opened by sliding it to the west along the runner of the makeshift frame.

The doorframe of the partition wall is also recycled. It is nailed in place with nineteenth-century cut nails, but its construction and section profile suggest a much earlier date of origin (Figure 61). It is constructed of two vertical jamb posts and a crossing lintel connected with mortise-and-tenon joints. The eastern post, as it is currently situated, has been cut to an approximate height of 7 feet 8 inches to accommodate the slope of the roof. The western post rises to a height of 9 feet 10 inches above the current floor plane with a 6-½ inch rabbeted notch cut across the top. The rabbeted notch

probably corresponded to a horizontal beam or joist to which the partition wall was attached. The jamb posts are decorated with a modest bead and have full-height, vertical grooves cut in them to receive tongued partition boards (Figures 62 & 63). The western post has two separate grooves - one parallel and one perpendicular to the door plane. The two grooves indicate that the post was at the intersection point of two separate partition walls. The doorway must have led at one time to a smaller room or partitioned compartment. This configuration suggests that the doorway once opened to an enclosed staircase or possibly a closet.

The current door appears to be constructed of recycled parts as well. It is made of three vertical boards and two horizontal battens. The vertical boards may be recycled partition boards. They are simple and unadorned and measure approximately eleven inches wide by ⅞ of an inch thick. The centerboard has a tongue on each edge that is fitted into a groove cut into the adjacent boards. This pattern suggests that the partition walls would have been constructed of alternating double-tongued and double-grooved boards. There is a fragment of another tongued board used in the bracing of the partition wall above the door, and another used for the threshold. There is also a beaded partition board re-used as part of the balcony flooring on the north side of the doorframe. (See Figure 60 for profile of the partition board).

All of these pieces may be remnants of the board partition walls that once corresponded to the jamb posts of the recycled doorframe.

Both the recycled doorframe and the fragments of the partition boards indicate that the interior configuration of the meetinghouse was altered at some time. A former partition wall and perhaps a former staircase or closet may have existed on the ground floor before alterations were made. If most of the major interior modifications to the meetinghouse occurred as part of the "Repair" campaign circa 1829, these fragments were likely recycled at that time. No physical evidence has yet been found to determine the initial placement of these fragments.

Rigged A-frame roof support:

When Merion Meeting added the chimney to the meetinghouse to serve as a central smokestack for interior heating stoves in 1829, a crucial structural roof member was compromised in order to accommodate it. The extended collar beam of the north central principal rafter assembly was cut to permit the chimney mass to pass through the center of the roof. As discussed in Chapter 3: Analysis of Roof Framing, the extended collar beam was an integral member of the roof framing. It had been designed to function at the juncture of the intersecting roof sections, to distribute the structural load, and to bridge

the open space below. The breach of the connection between the two collar beams required additional framing to compensate for the structural loss.

The solution that the carpenters devised was rather resourceful and has been effective for over one-hundred-and-seventy years. The carpenters essentially rigged a variation of an A-frame from which to hang the severed collar beam (Figures 43 - 45). Four diagonal braces running from the double-length purlin and four diagonal braces running from the collar beam of the northernmost principal rafter assembly of the south section together support a small 8-foot beam that crosses above the extended collar. A wide post measuring 2-½ inches thick by 9-¼ inches wide by 5 feet 2 inches high was hung with a through-notch from the makeshift beam extending down to the top of the cut collar (Figure 46). A bolted iron strap connected the suspended post to the extended collar (Figure 47). A second iron strap connected the extended collar beam directly to the double-length purlin. By means of this jerry-rigged frame, the structural load carried by the center principal rafter assembly was thereby transferred to the double-length purlin of the north section and the collar beam of the northernmost principal rafter assembly of the south section from which the extended collar was detached. Several braces running from the adjacent common rafters were also fastened to the makeshift structure to stabilize and reduce any lateral movement.

The lumber used for the jerry-rigging shows marks of pit-sawing and appears to be recycled from original roof framing members. Several of the joists that run among the collar beams of the principal rafter assemblies over the loft are missing. The third, fourth, and fifth joists, counting from the west, that extended between the south gable wall and the first assembly have been sawed off near the wall plane (Figure 52). The south ends of the joists are still visible in their masonry pockets. The reason for their removal is unclear. The sixth joist, counting from the west, which spanned between the first and second assemblies over the south section, has also been removed. The diagonal braces of the jerry-rigged support frame were built from lumber of similar dimensions as these collar joists. It is possible that these four joists were removed and re-used in the jerry-rigged support frame when the chimney was built circa 1829.

Repaired roof framing members and rafter plates:

Several of the framing members that together form the southwest valley of the roof at the juncture of the two sections are not part of the original configuration. There appears to have been a leak in the roof at that juncture which caused considerable damage in the past. The unaltered and integrated framing of the southeast valley likely represents the original configuration of the roof. Using the southeast roof valley framing for reference, it is obvious

that the framing of the west valley has been significantly altered. The diagonally positioned valley rafter that ran from the rafter plate to join the double-length purlin has been replaced with a new member. The double-length purlin has been notched out to accommodate the new piece. To compensate for the dimensional loss due to the notch, the purlin was reinforced with two additional horizontal members (Figures 48 & 49). The reinforcing members are pegged in place above and beneath the purlin, effectively sandwiching the new valley rafter.

The rafter plates below the valley at the western juncture of the two sections have also been altered. The rafter plates at the eastern juncture are of similar dimensions - 9-½ inches wide by 7 inches high - and are joined by mortise-and-tenon (Figure 54). The western plates are of different dimensions and are not joined but simply meet perpendicularly. The plate that rests on the southwest wall of the north section, in fact, has been replaced by two stacked pieces of timber each measuring 8-½ inches wide by 3 inches high (Figure 55). It seems that at least part of the original plate was removed and replaced with the composite members.

These extensive alterations to the roof framing at the western juncture of the two sections indicate the effects of a serious roof leak. Excessive water infiltration likely caused serious timber rot in the valley rafter and its supporting plate. Both members were likely replaced when the roof was

altered to accommodate the chimney mass. Less serious damage is still visible in some of the adjacent structural members. The interior walls of this section are plastered and appear to have remained relatively intact since the repairs were made. It is likely that these major roof repairs were part of the general "Repair" campaign circa 1829.

Casement windows:

Perhaps the most extraordinary architectural fragments that survive in place in the meetinghouse are the frames of the original leaded casement windows located in the upper walls of the northeast and northwest gables. In many early buildings, casement windows were removed and replaced with single- or double-hung sash windows when the new technology became more readily available in the eighteenth century.[52] Although surviving casement window frames from this period are uncommon, other examples of early casement windows have been discovered *in situ* in a number of other buildings throughout the Delaware Valley. Portions of casement frames have been found in the Thomas Massey House (1696) in Marple Township, Pennsylvania, the Barns-Brinton House (1714) in Chadds Ford, Pennsylvania, and the Richard Woodward House (c. 1700), also known as the "Beehive," in

[52] C. F. Innocent, *The Development of English Building Construction* (1916; reprint, Shaftesbury, Dorset: Donhead Publishing, 1999), 263.

Thornbury Township, Pennsylvania. Unlike these examples, however, the fragments that survive in the attic space of Merion Friends Meeting House are remarkable because of their extraordinarily high degree of material integrity.

Casement frames that date from the seventeenth and early eighteenth centuries that have survived typically do so without their mullions and intermediate structural members. The casement frames at Merion were sealed in place with exterior batten shutters when the dropped ceiling over the main meeting room was added during the 1829 "Repair" campaign. Enclosing the frames *in situ* has helped to protect them from removal, severe damage and deterioration. The frame located in the upper wall of the northeast gable still retains its vertical mullion and the casement frame that survives in the northwest gable wall retains both its vertical and horizontal mullions (Figures 56 & 57). Details including the decorative ogee profiles of the structural members can still be discerned. The lights and lead cames have been lost, but the remarkable amount of fabric that does survive reveals the original configuration of the windows (Figures 59 & 60). Evidence indicates that the leaded glass panes were nailed into the frames and supported with vertical stiffener rods. The lights in these windows, located high above the ground floor below, were fixed in place and did not open.

Further investigation of the northwest attic window frame revealed additional fragments. Located above the horizontal sill member on both sides

of the center mullion are two recycled fragments that were re-used as nailers to secure the batten shutters (Figure 58). The two members appear to be pieces cut from a separate casement window frame. The rabbeted edges and joint configurations suggest that they were part of a vertical member, perhaps a center mullion. The fragments may have been removed from the east frame (Figure 20), which is missing its center mullion, or may be recycled from an original casement frame that was replaced elsewhere in the meetinghouse. Since the edges were rabbeted to receive sash, it is likely that the fragments were recycled from a first-story window frame that included operable casement windows.

Conclusion:

As discussed in Chapter 2, the surviving archival documentation relating to Merion Friends Meeting House is incomplete, and often inconclusive and vague. Consequently, precise dates and specific answers involving the meetinghouse's construction chronology and atypical T-shaped form have remained elusive. The many disparate interpretations of the extant documentary evidence illustrate the ambiguity and imprecision involved in relying solely upon the written record to answer specific questions involving the building's construction. The archival evidence that has survived is suggestive at best, but cannot be counted upon as unequivocal. In the case of Merion Friends Meeting House, the surviving written record best serves as a framework for further study in which proposed scenarios and hypotheses based on other research can be tested and checked for consistency.

The most persuasive arguments that historians have offered on the subjects of the T-shaped form and construction chronology have combined clues gathered from the written record with analyses of the surviving physical fabric. Even these interpretations have resulted in conflicting theories. Much of the difficulty can be attributed to the limited amount of accessible and definitive physical evidence. Physical evidence can aid in determining a sequence of construction, but it usually cannot provide exact dates. An

examination of the roof framing, for example, has helped establish that it is highly probable that the roof was built as an integrated structure, but no clue in the fabric has determined the exact year or years of its construction. Nevertheless, until more conclusive documentary evidence is discovered, the *in situ* physical evidence remains the greatest source of information and answers. Further investigation and documentation should be undertaken when and if the framing is exposed as a part of future restoration work.

This thesis project has primarily involved a review of the extant documentation, both primary and secondary, and a methodical investigation of the building's *in situ* framing structure and recycled architectural fragments. Conclusions were reached through the analysis and interpretation of physical fabric. Documentary evidence was used to either negate or affirm interpretations of the evidence found. Although the prevailing questions of precise construction chronology and form have remained unanswered and undoubtedly will continue to resurface in future investigations, other issues have been addressed and new questions have been raised by this study.

Examining the framing configurations of the present balcony and loft, for example, suggests that the interior of the meetinghouse has been altered from its original design. The beam that serves as the rear support of the balcony frame spanning east to west across the juncture of the two sections has been recycled from a previous use. A series of vacant mortises are evident

on the south face. In contrast, the different dimensions of lumber, the different means of sawing, and the different connecting joints used to frame the rest of the present balcony clearly indicate a separate and much later building campaign. The loft partition, likewise, was built from recycled materials and added many years after the building itself was erected. The previous uses of these materials are indicative of extensive interior alterations. We know that major alterations were made during the 1829 "Repair" campaign, but the original interior configuration is not clear. Further analysis of these fragments may shed light on what preceded the current arrangement. Removal of portions of interior plaster might uncover additional evidence.

The puzzle of Merion Friends Meeting House is further complicated by the possibility that some of the recycled architectural fragments may have been recovered from a previous structure. The wainscoting in the north and south rooms of the ground floor, for instance, are inconsistent. The wainscoting in each room is distinct from the other, having different dimensions, different ornamental profiles, and different means of connection. These significant discrepancies seem to indicate that they were acquired at different times, or perhaps indicate two separate campaigns to finish the interior of the meetinghouse. The profile of the wainscoting in the south room suggests that it was installed much later than the wainscoting in the north room. The profile is similar to woodwork profiles common in the nineteenth

century. The discrepancies might also be the result of reusing salvaged materials from a previous building. The chronology here is uncertain, and several scenarios are possible.

Material analysis has helped to explain some aspects of the construction sequence. A detailed examination of the roof framing has led to the conclusion that it was built all at one time. The *in situ* "cruck" framing is an integrated system that would have been difficult to execute in separate construction phases. The joinery necessitates a certain construction chronology that would be nearly impossible to circumvent. Matching species of wood and identical joint configurations in both sections of the roof also suggest that the entire roof was designed and built as an integrated structure. The question still remains as to when it was built, and the fabric unfortunately has remained silent on the subject. A more pertinent question is whether an integrated roof configuration is also indicative of an integrated masonry structure beneath it.

Although the investigation of physical fabric does not typically uncover evidence of specific dates, relative dating and an understanding of sequence can often be deduced. Old-World building practices incorporated in the unusual roof structure suggest an early date of construction. Although they were all part of the same monthly business meeting, neither the Radnor (1718) nor the Old Haverford Meeting House (1701) incorporated the same "cruck"

principal rafter roofing system as that of Merion. Radnor and Old Haverford adopted the more recently developed king-post truss system instead.[53] The transplanted building technologies that survive in Merion Friends Meeting House suggest it is older than the others are, but the exact year of construction is still speculative.

Determining the exact dates of construction may not be possible, but unraveling the mystery of the meetinghouse's T-shaped design and the construction sequence of the building still might be. Most of the accessible fabric has been examined; further investigation would require selective demolition and archeological excavation. An analysis of the masonry, especially at the junctures of the walls, could resolve whether the north and south sections were constructed separately or keyed together in a single construction campaign. Preliminary examination of the crawl space beneath the meetinghouse revealed no evidence of a foundation at the juncture of the two sections. If one section stood independently before the other was built, evidence of a foundation would be expected. Removal of portions of the exterior stucco or the interior plaster where the north and south sections meet might help determine whether the structures were integrated structurally or

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[53] Historic American Buildings Survey, National Park Service, U.S. Department of the Interior, "Merion Friends Meeting House," Report for the Historic American Buildings Survey, HABS No. PA-145 (1997), 20.

whether one section was added later. Further excavation and exploration of the foundation walls may also provide clues.

The Merion Friends Meeting House is a fascinating and puzzling structure to study. Many interesting questions remain beyond the glaring issues of accurate construction dates and the anomalous T-shaped plan. The unusual amount of historic fabric that survives intact in this late-seventeenth (or early-eighteenth) century structure is an invaluable source of information. Merion Friends Meeting House remains an extraordinary example of transported vernacular architecture and continues to warrant further analysis and documentation.

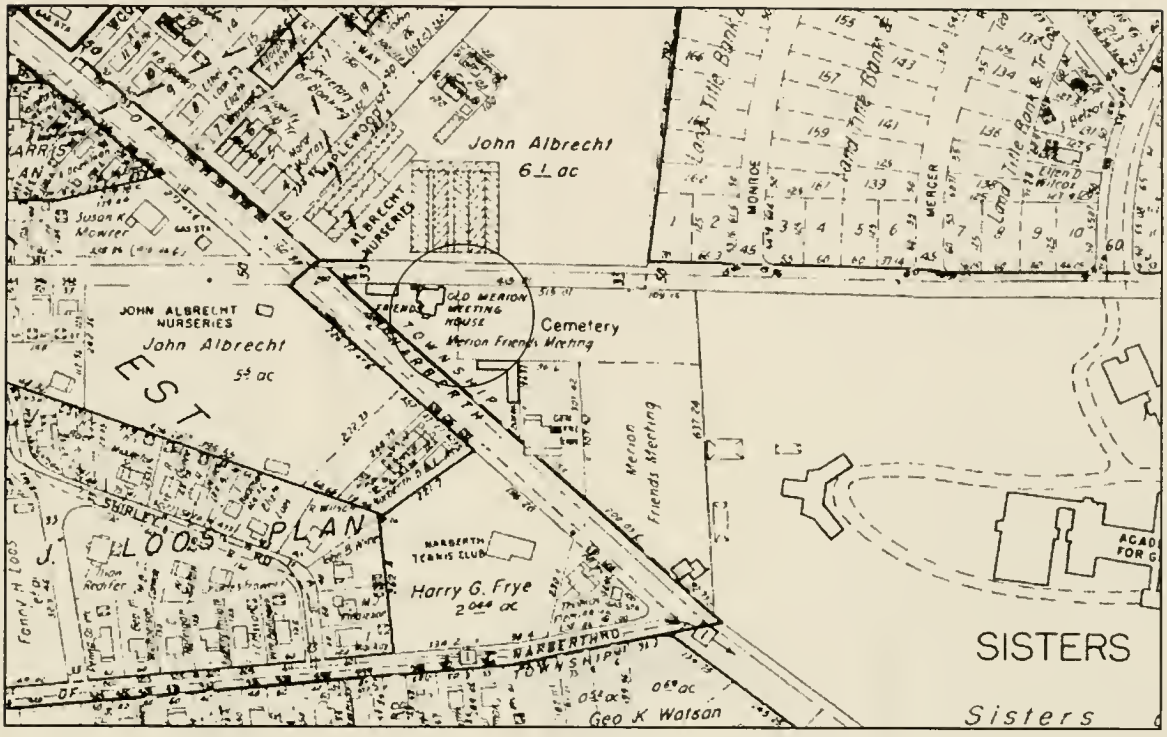


Figure 1:
Detail from *Atlas of Lower Merion Township, Montgomery County, Pennsylvania,* Plate 7, Franklin Survey Co., 1937.

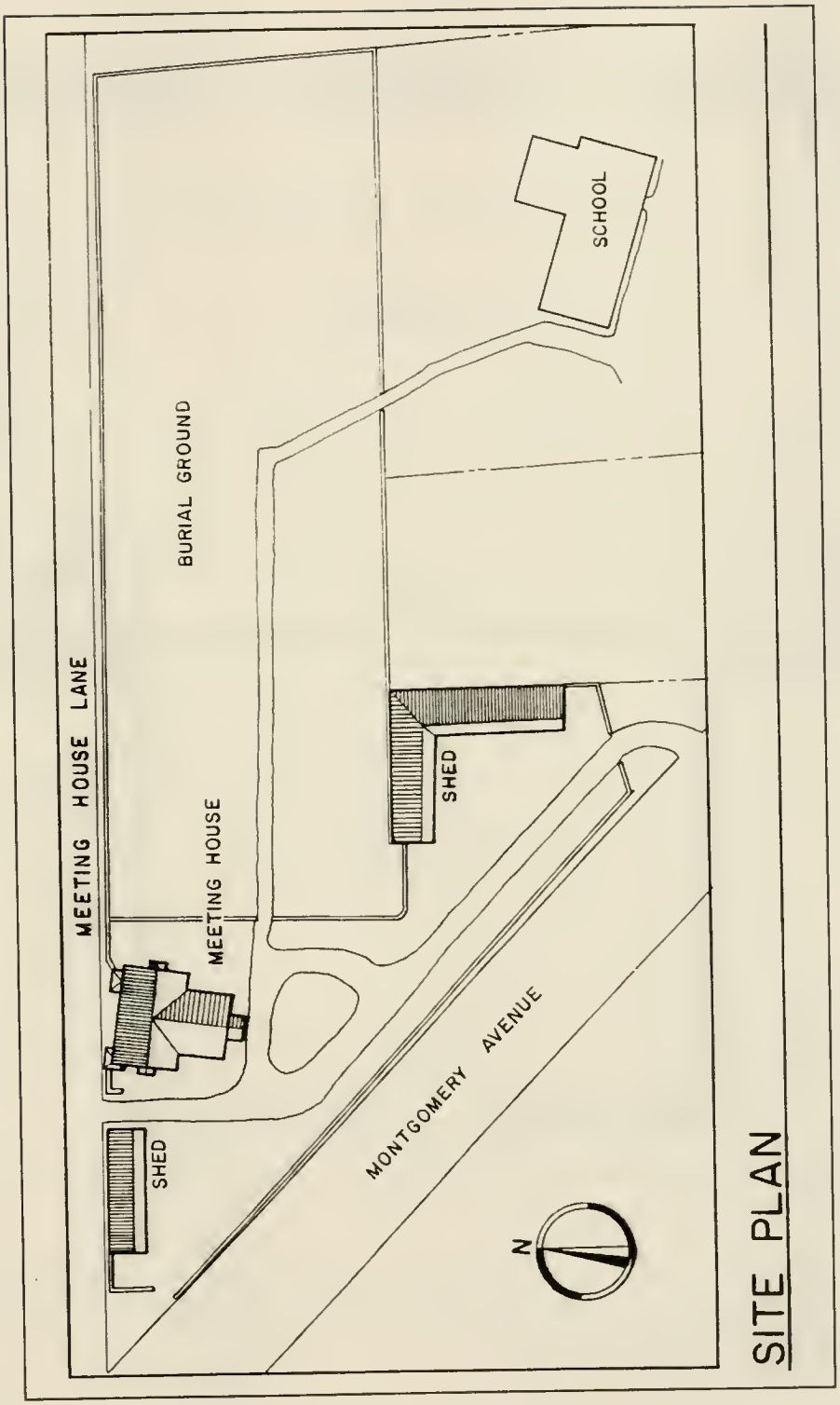


Figure 2:
Merion Friends Meeting House, Site Plan. Historic American Buildings Survey, National Park Service, PA-145. Drawn by A. Maksay and R. Miller, 1997.

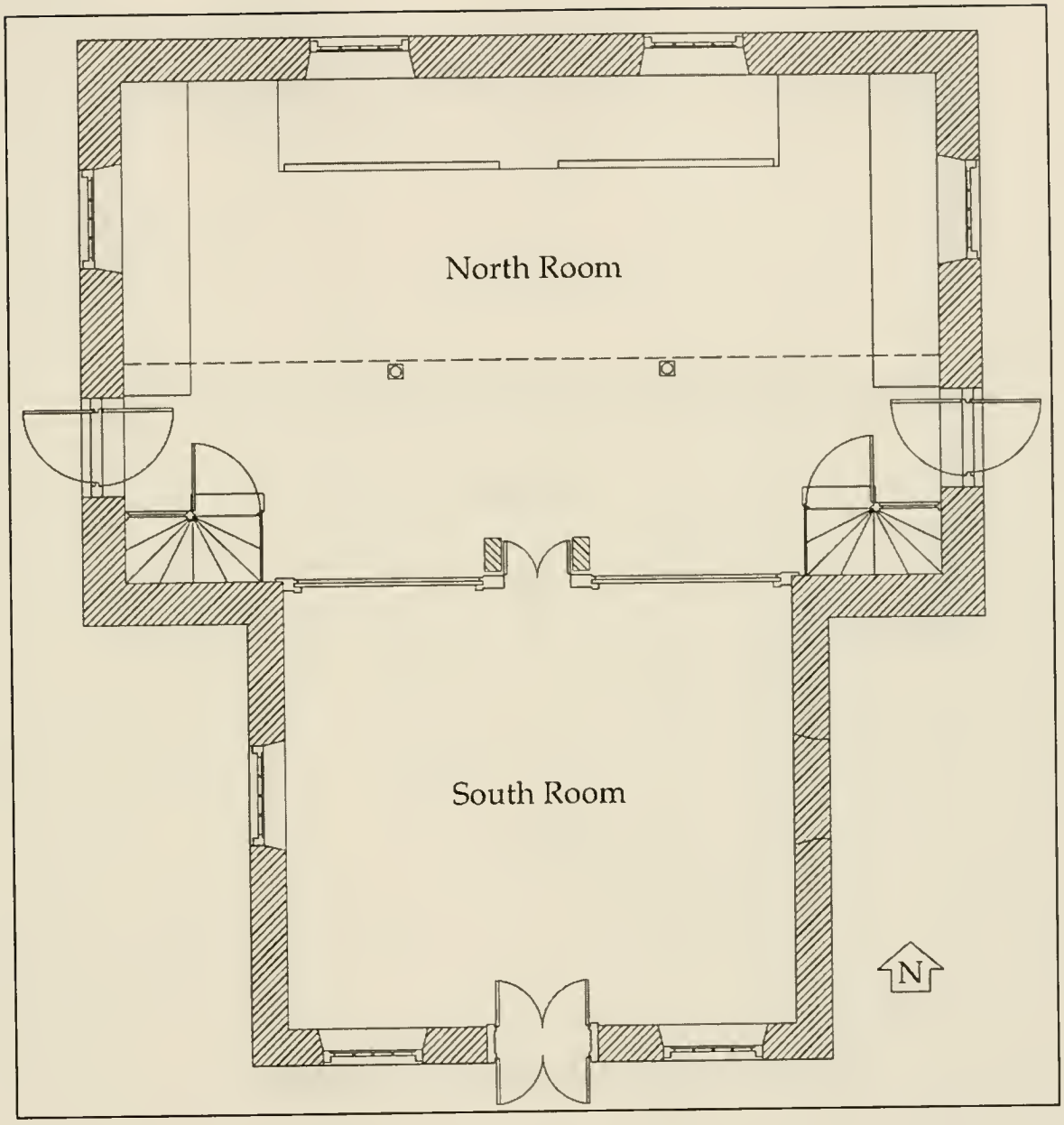


Figure 3:
Merion Friends Meeting House, Ground floor plan.

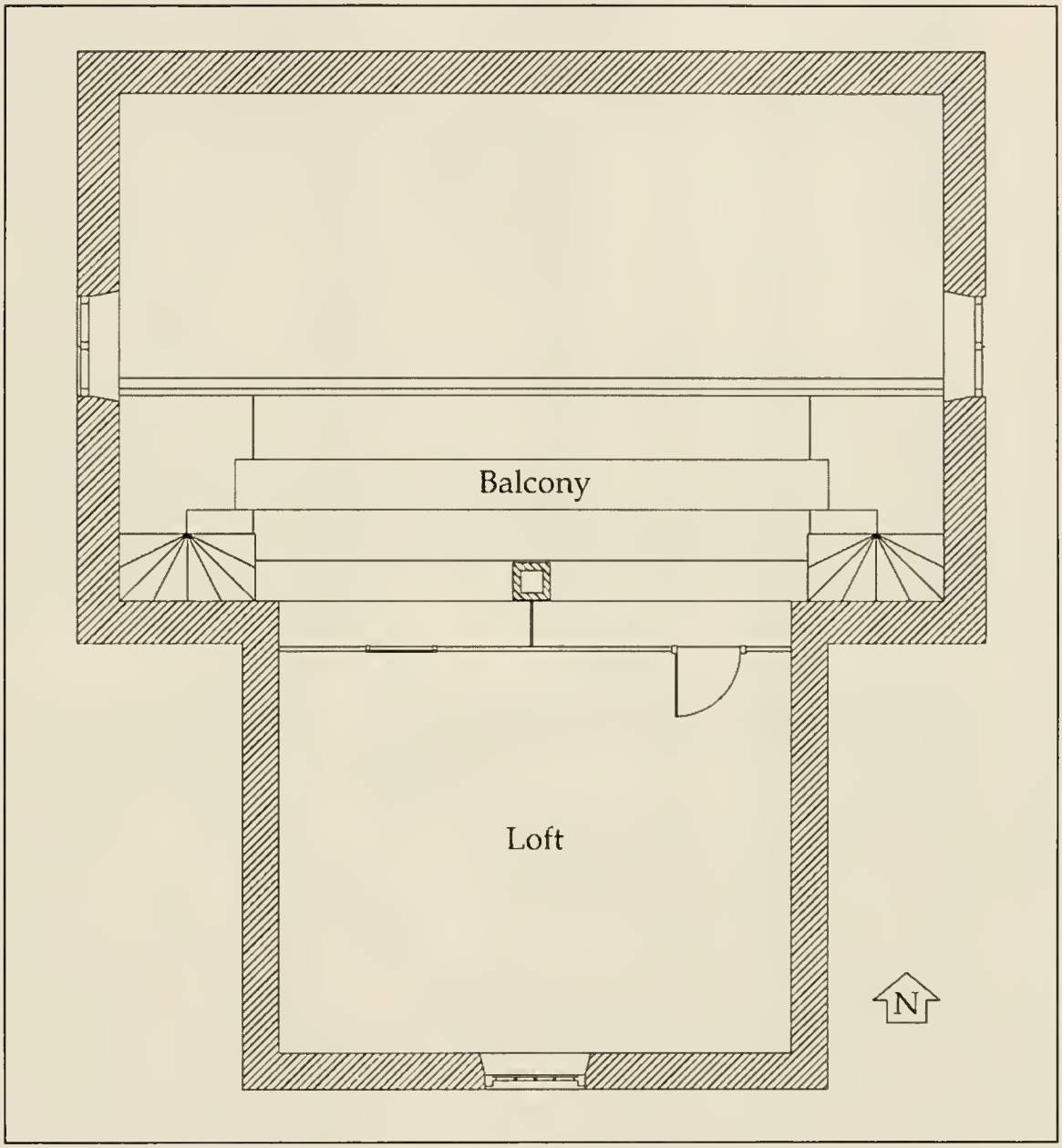


Figure 4:
Merion Friends Meeting House, Loft floor & balcony plan.

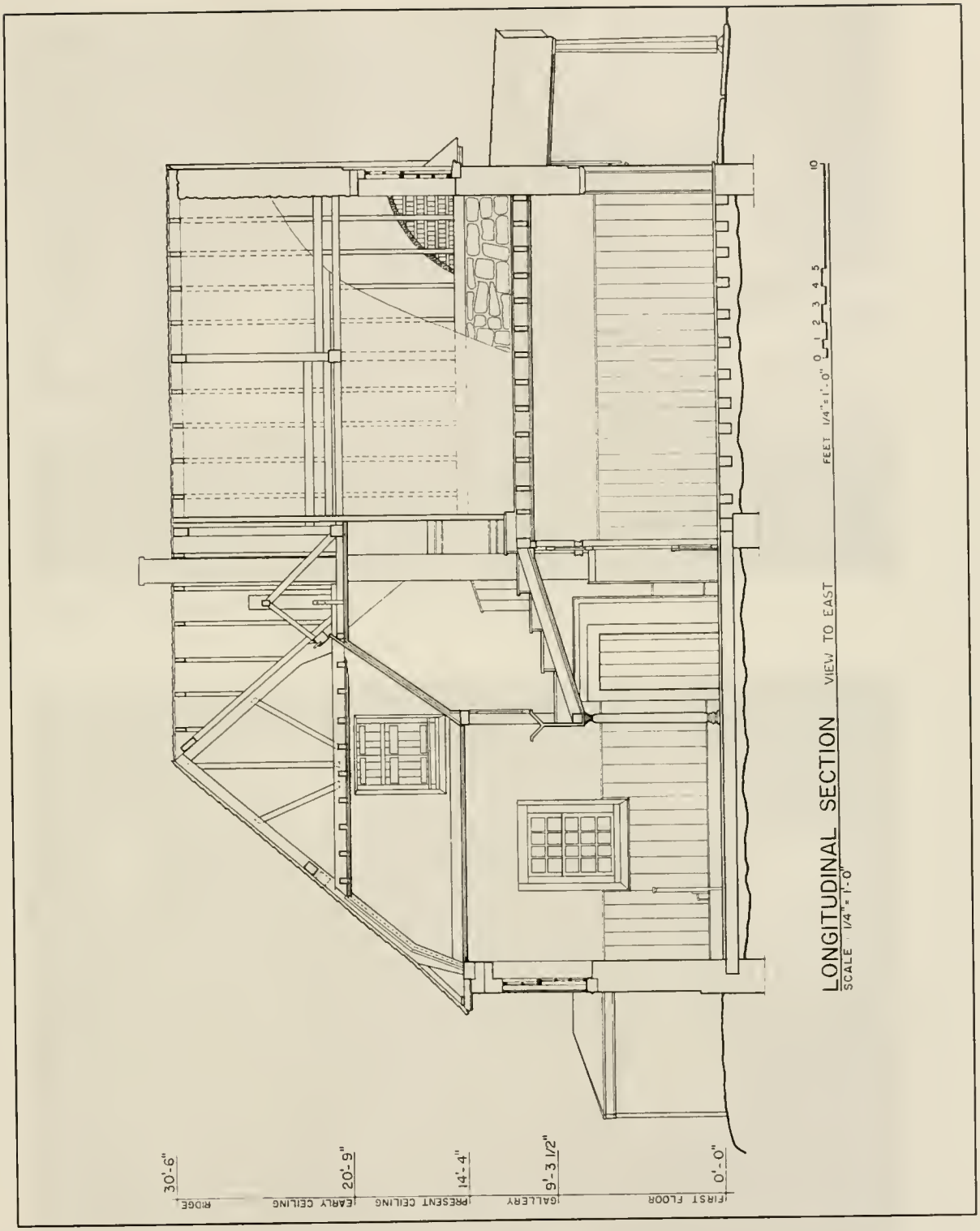


Figure 5:
Merion Friends Meeting House, Longitudinal section. Historic American Buildings Survey, National Park Service, PA-145. Drawn by A. Maksay and R. Miller, 1997.

Figure 6: South exterior elevation. Main entry and portico.
Photograph by author, 2001.

Figure 7: West exterior elevation.
Photograph by author, 2001.

Figure 8: North exterior elevation with flanking privy additions.
Photograph by author, 2001.

Figure 9: East exterior elevation. Burial ground in foreground.
Photograph by author, 2001.

Figure 10:
Principal entry doors, south exterior elevation (c. 1829).
Photograph by author, 2001.

Figure 11:
Typical window, exterior elevation. Eight-over-twelve-light, double-hung sash with wooden sill and frame, and exterior paneled shutters. Segmental arch above. Photograph by author, 2001.

Figure 12:
Loft window and broken pent roof, south exterior elevation.
Detail from HABS photograph No. PA-145-17 by Jack E. Boucher, Photographer, 1997-1999.

Figure 13:
Side door and hood, west exterior elevation. Exterior paneled door added c. 1829.
Photograph by author, 2001.

Figure 14:
Date stone, northwest gable wall.
Photograph by author, 2001.

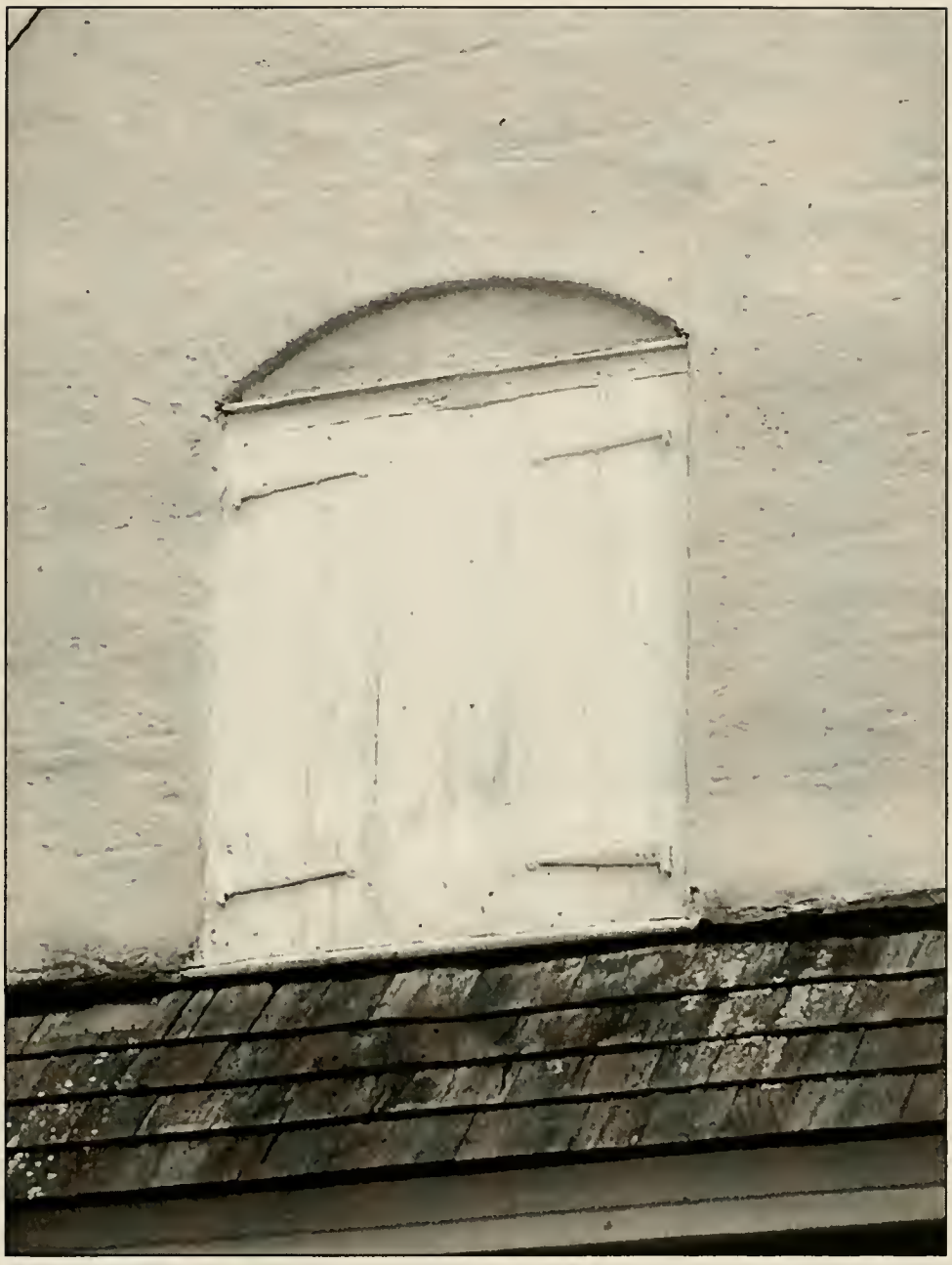
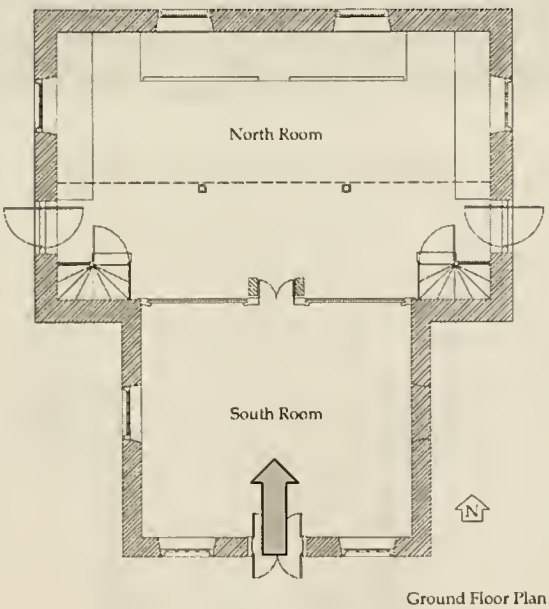


Figure 15:
Attic window, east exterior elevation.
Exterior stucco has been scored to resemble ashlar stone blocks. The shutters conceal one of the two surviving casement window frames.
Photograph by author, 2001.



Ground Floor Plan

Figure 16:
Interior south room looking north from main entrance. Center aisle continues through partition wall.
HABS photograph No. PA-145-17
by Jack E. Boucher, Photographer,
1997-1999.

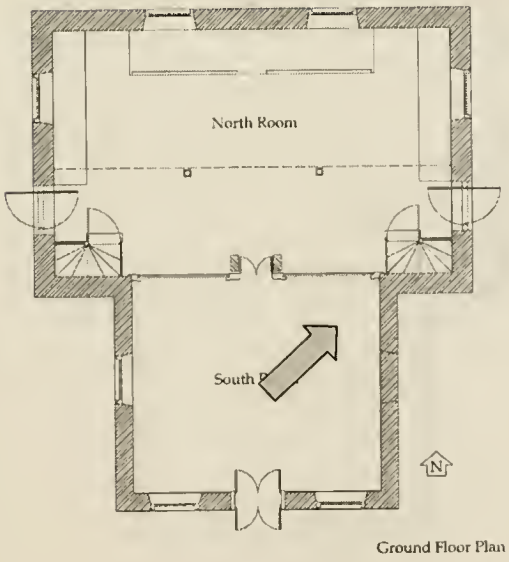
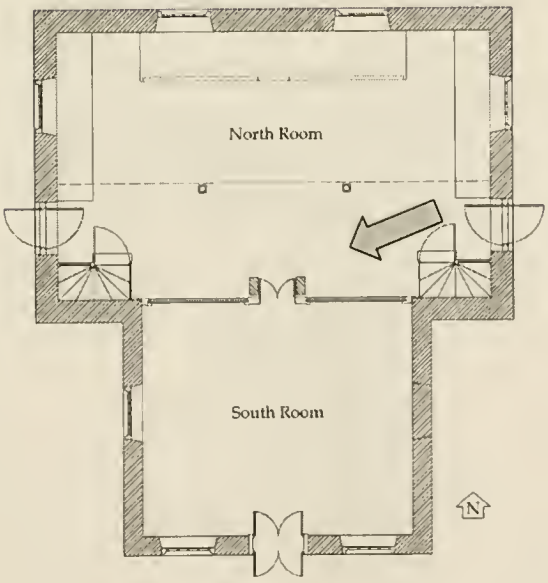
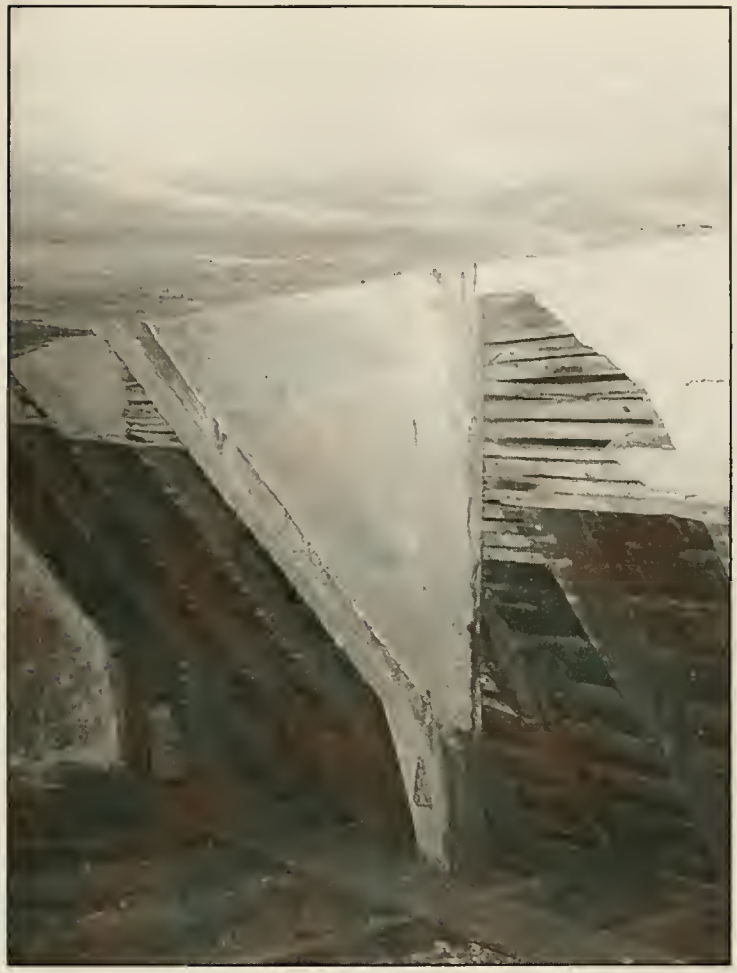


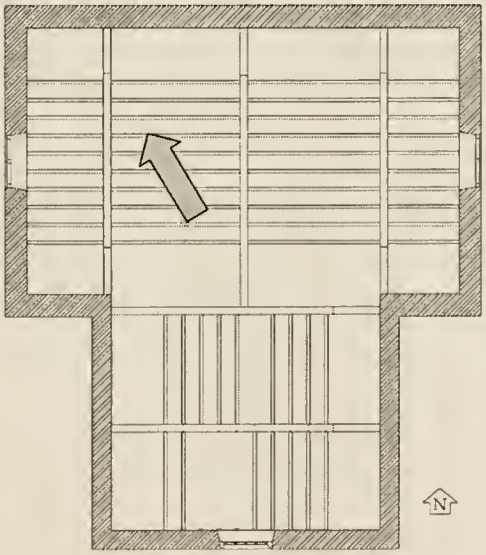
Figure 17:
Retractable partition wall between north and south rooms looking from southwest to northeast.
HABS photograph No. PA-145-20
by Jack E. Boucher, Photographer,
1997-1999.



Ground Floor Plan

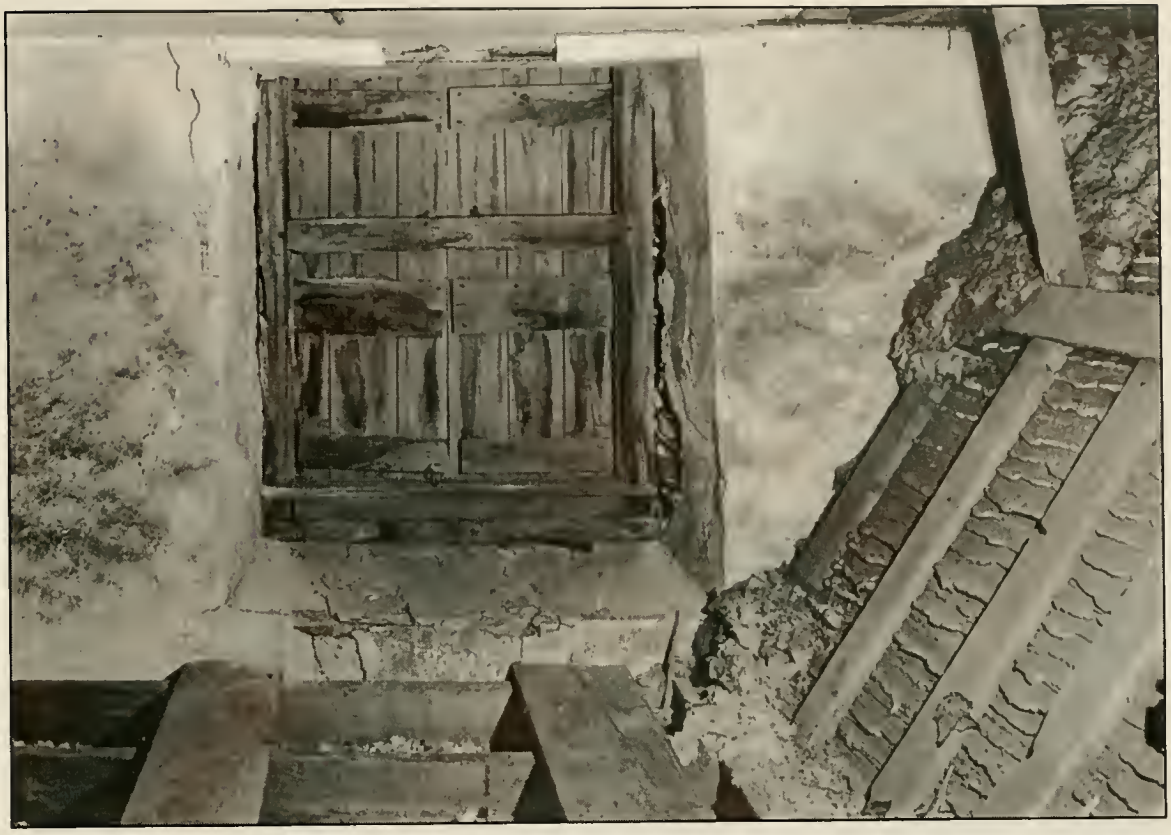
Figure 18:
Masonry chimney support and passageway. The base of the chimney can be seen above the doorway. Photograph by author, 2002.

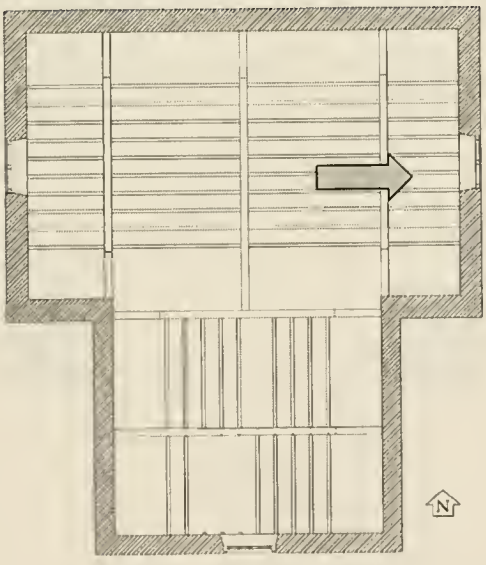




Attic Plan

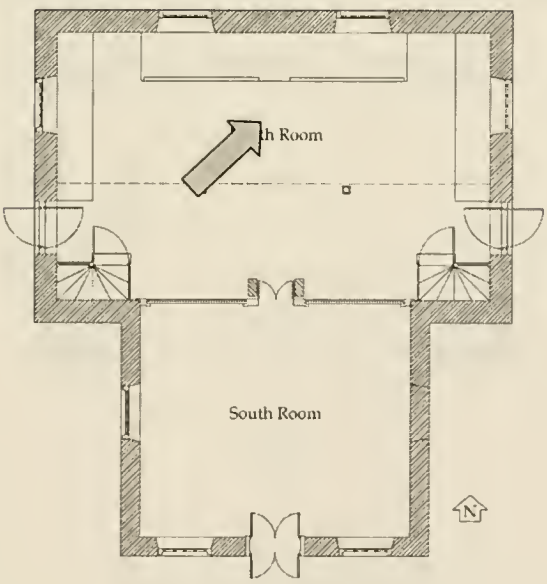
Figure 19:
Attic space above dropped ceiling. Plaster shows original ceiling height at collar beams. The "cruck" principal rafters were partially exposed and whitewashed originally.
Photograph by author, 2002.





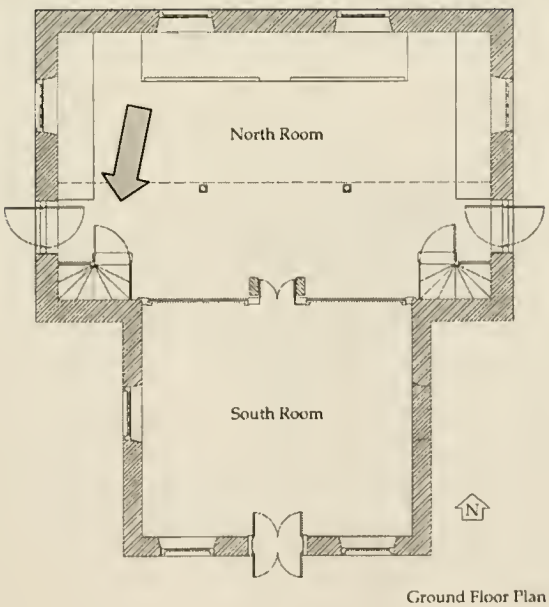
Attic Plan

Figure 20:
Original casement window frame in place in northeast gable wall below original ceiling height, above dropped ceiling in current attic space.
HABS photograph No. PA-145-38
by Jack E. Boucher, Photographer,
1997-1999.



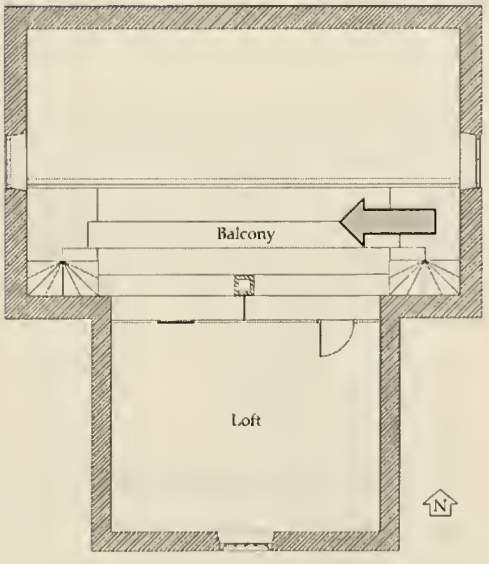
Ground Floor Plan

Figure 21:
Ministers' gallery, also known as the "facing benches," in north room. Note position of hat pegs above the wainscoting on the north wall. Evidence suggests that the ministers' gallery was lowered from three tiers to one. Photograph by author, 2002.



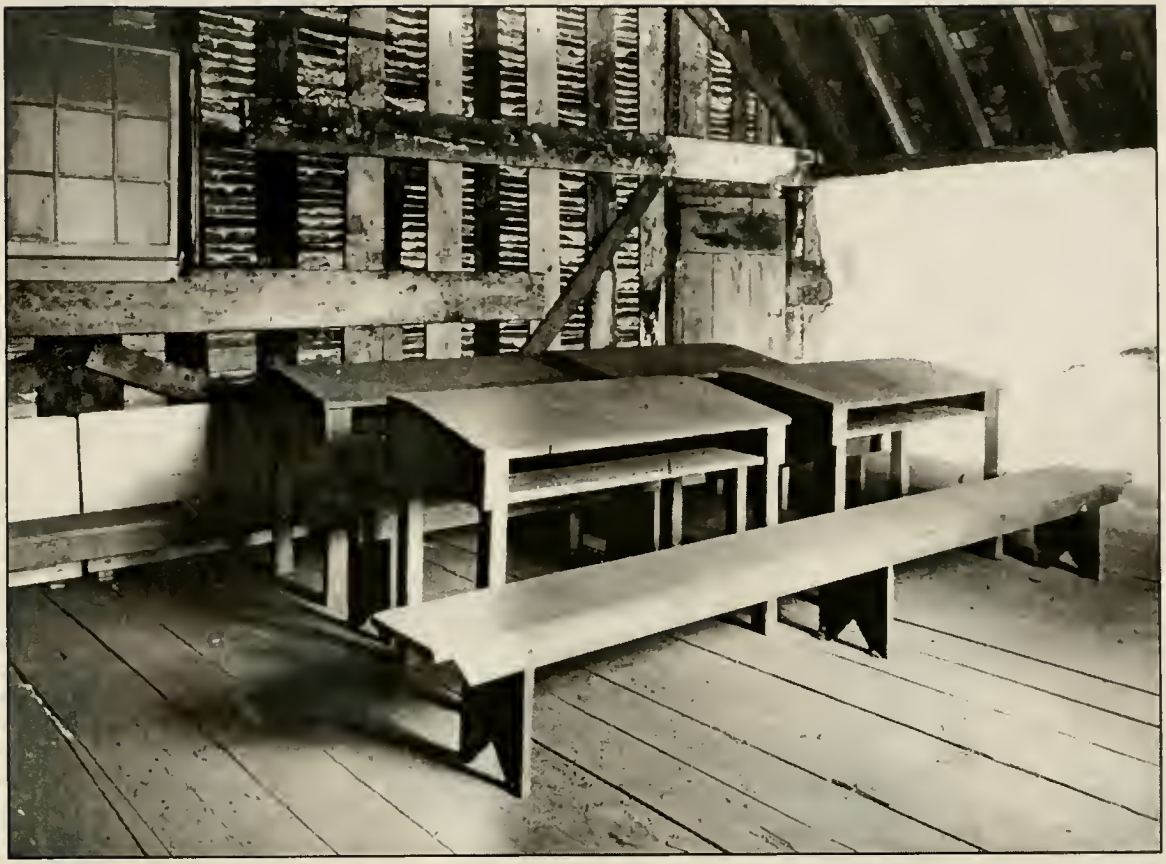
Ground Floor Plan

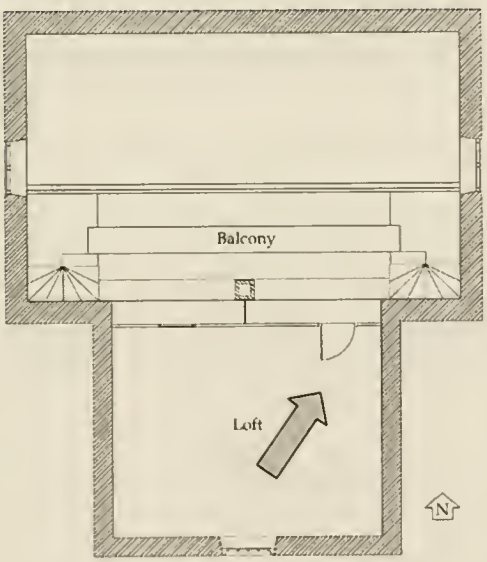
Figure 22:
Boxed winder staircase to balcony.
Photograph by author, 2002.



Loft Floor & Balcony Plan

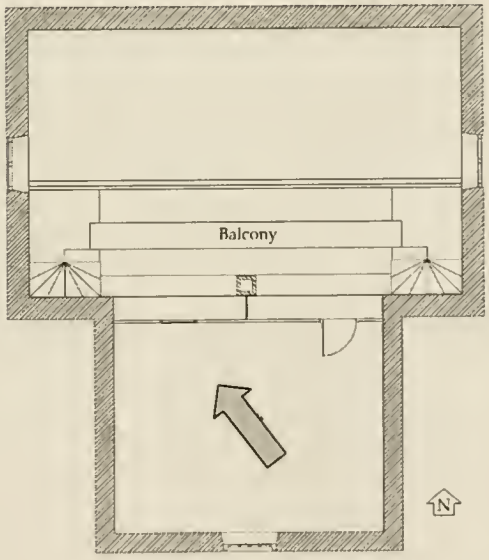
Figure 23:
Tiered balcony over north room looking east to west. The paneled shutters of the partition are hinged and can be closed to separate the balcony from the room below. A chimney mass interrupts the center aisle.
HABS photograph No. PA-145-32
by Jack E. Boucher, Photographer,
1997-1999.





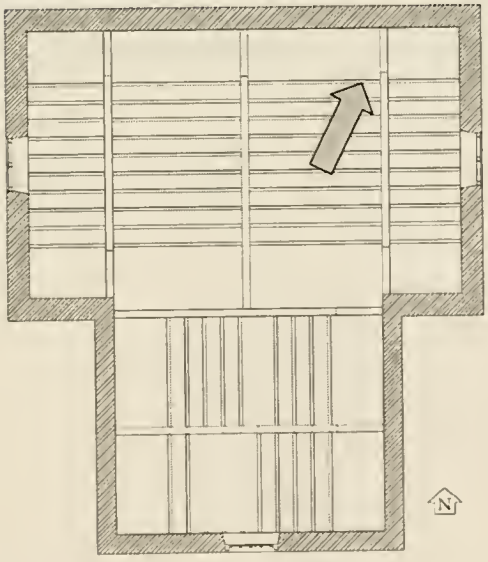
Loft Floor & Balcony Plan

Figure 24:
Loft partition wall, south elevation, looking northeast. Photograph was taken before modern heating system was installed. Note the construction of the partition wall using salvaged materials. Photographer and date unknown. Merion Friends Meeting Archives Collection.



Loft Floor & Balcony Plan

Figure 25:
Loft partition wall, south elevation, looking northwest. Photograph was taken before modern heating system was installed. The partition was built using recycled materials including the window sash. Note the plaster covering the masonry wall to the west.
Life magazine photo for the Quaker section of "American Faith" series, 1945. Merion Friends Meeting Archives Collection.



Attic Plan

Figure 26:
Base of "cruck" principal rafter in present attic space over north section. Remnants of plaster indicate that the ceiling was once open to the rafters.
Photograph by author, 2002.

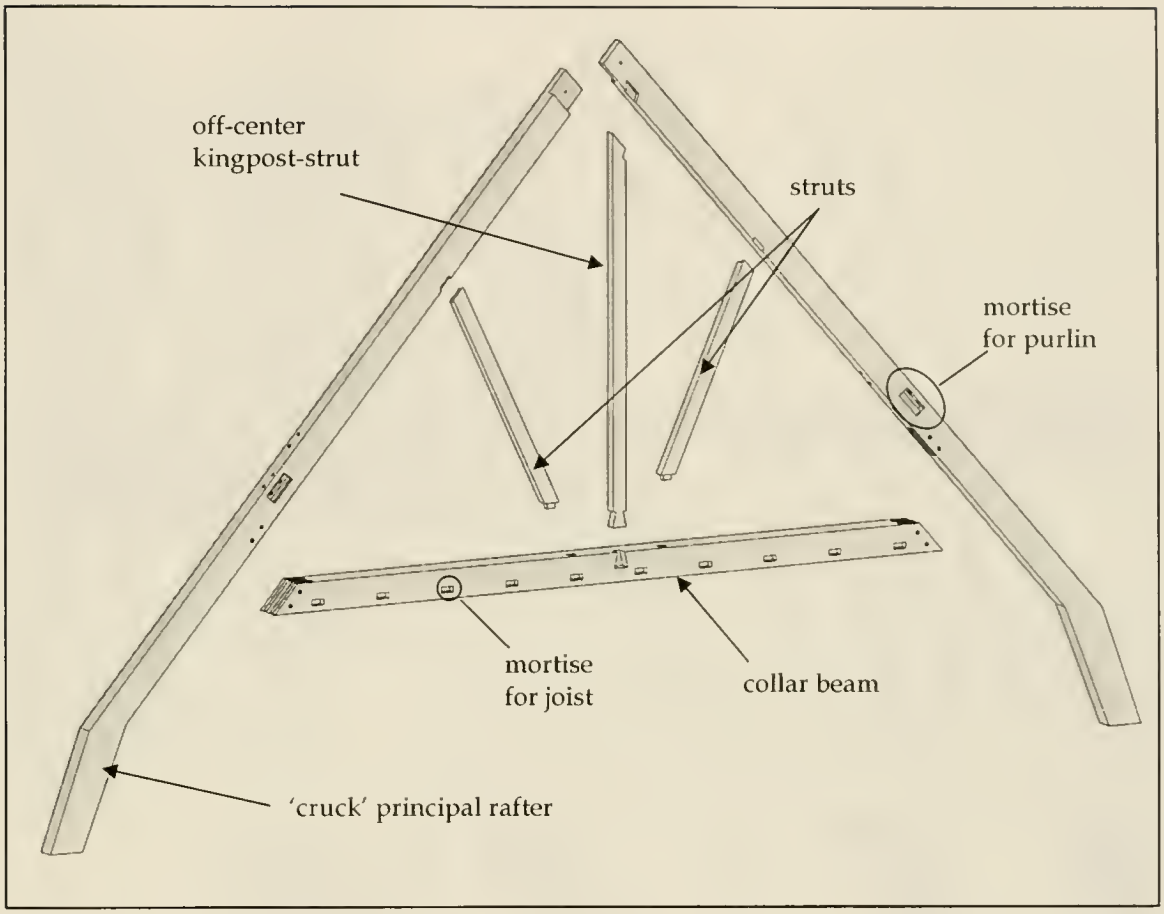


Figure 27:
Exploded three-dimensional view of typical principal rafter assembly.

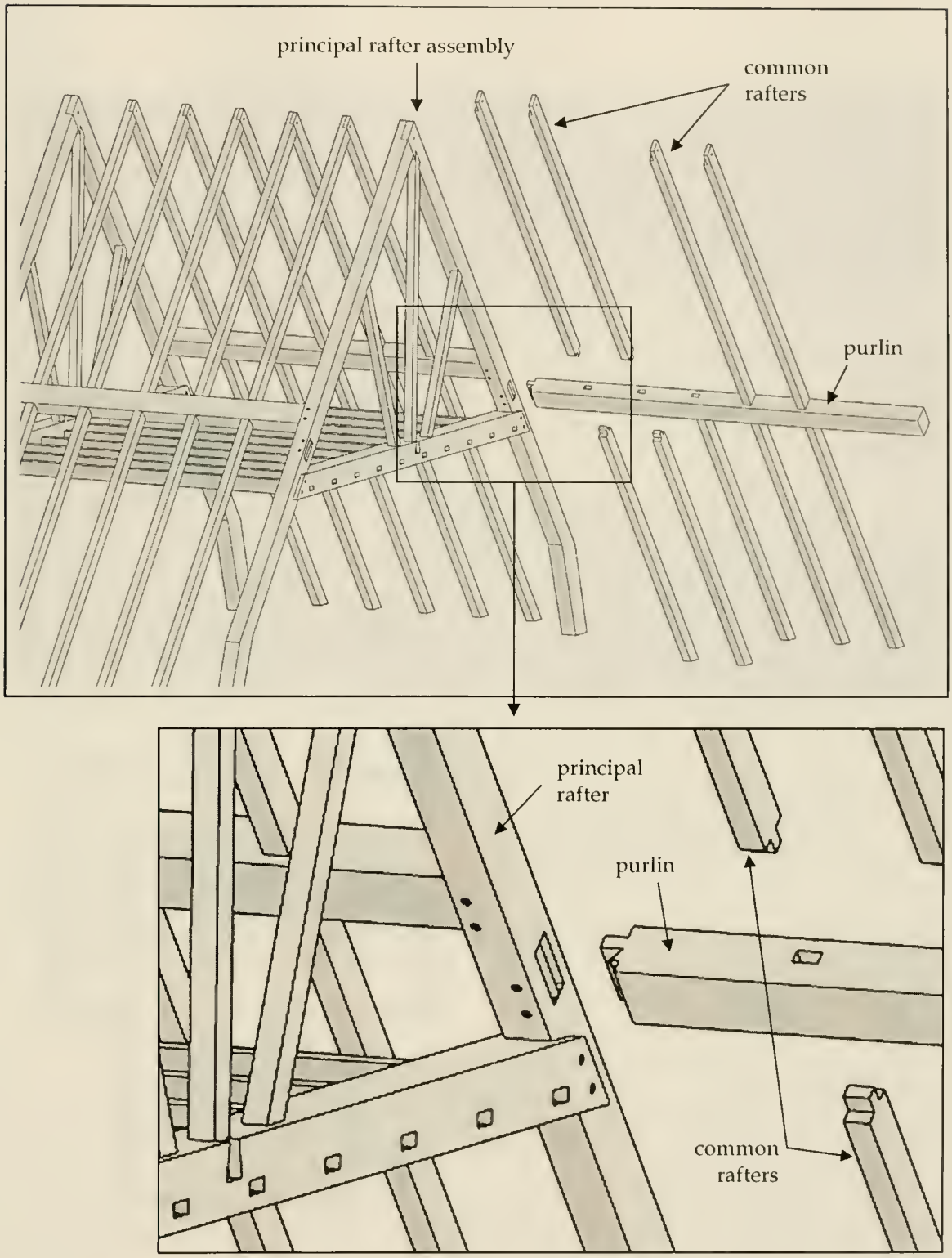
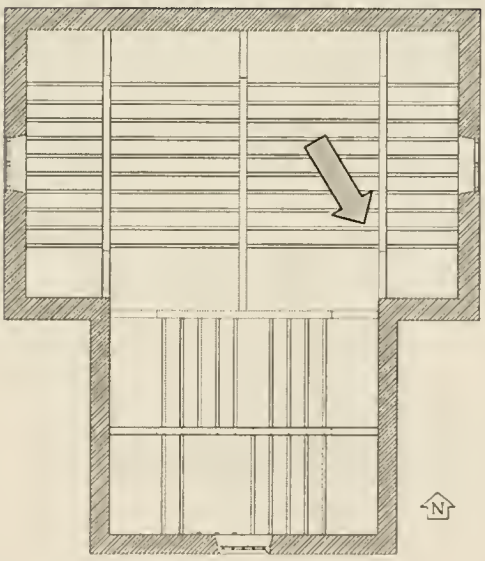
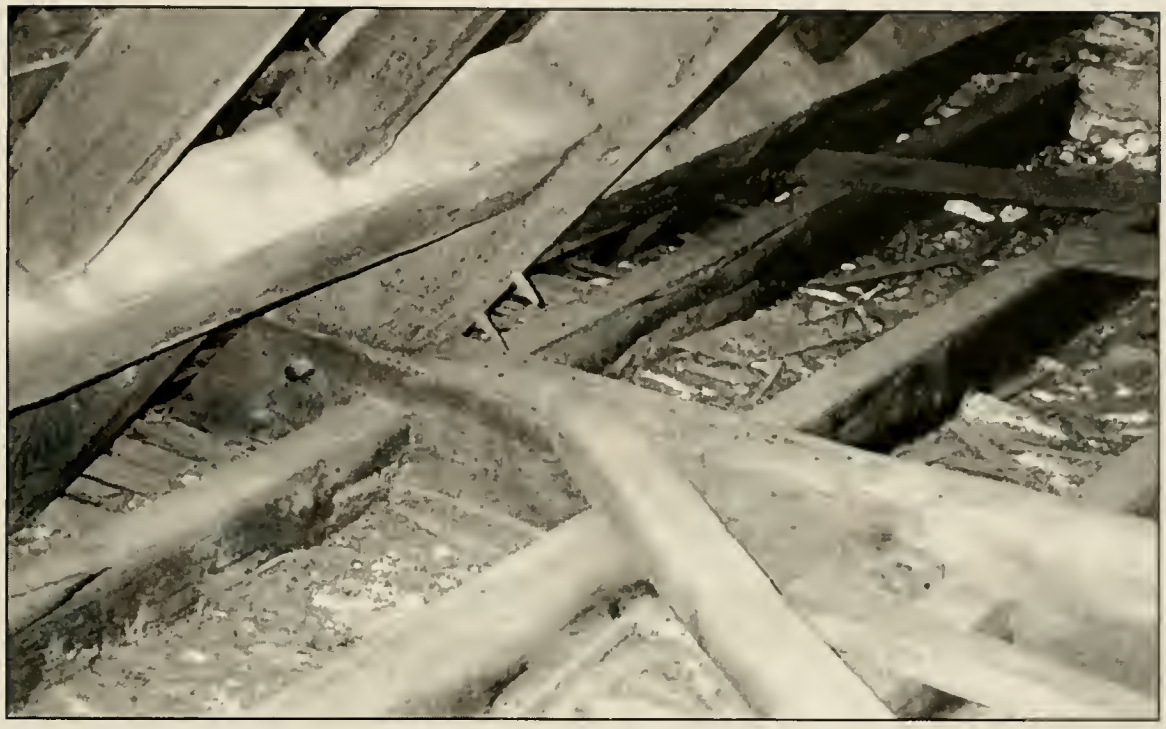


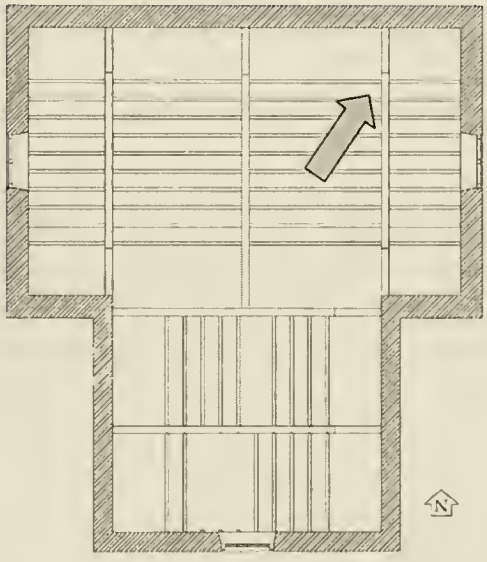
Figure 28:
Exploded three-dimensional view and detail of typical purlin and rafter assembly.



Attic Plan

Figure 29:
Detail of typical principal rafter and purlin mortise-and-tenon joint. Photograph by author, 2002.





Attic Plan

Figure 30:
Detail of roof framing showing typical principal rafter, collar beam, collar joists, common rafters, and purlins. The diagonal member extending from collar beam is a wind brace. It was installed to brace the structure during construction. Photograph by author, 2002.

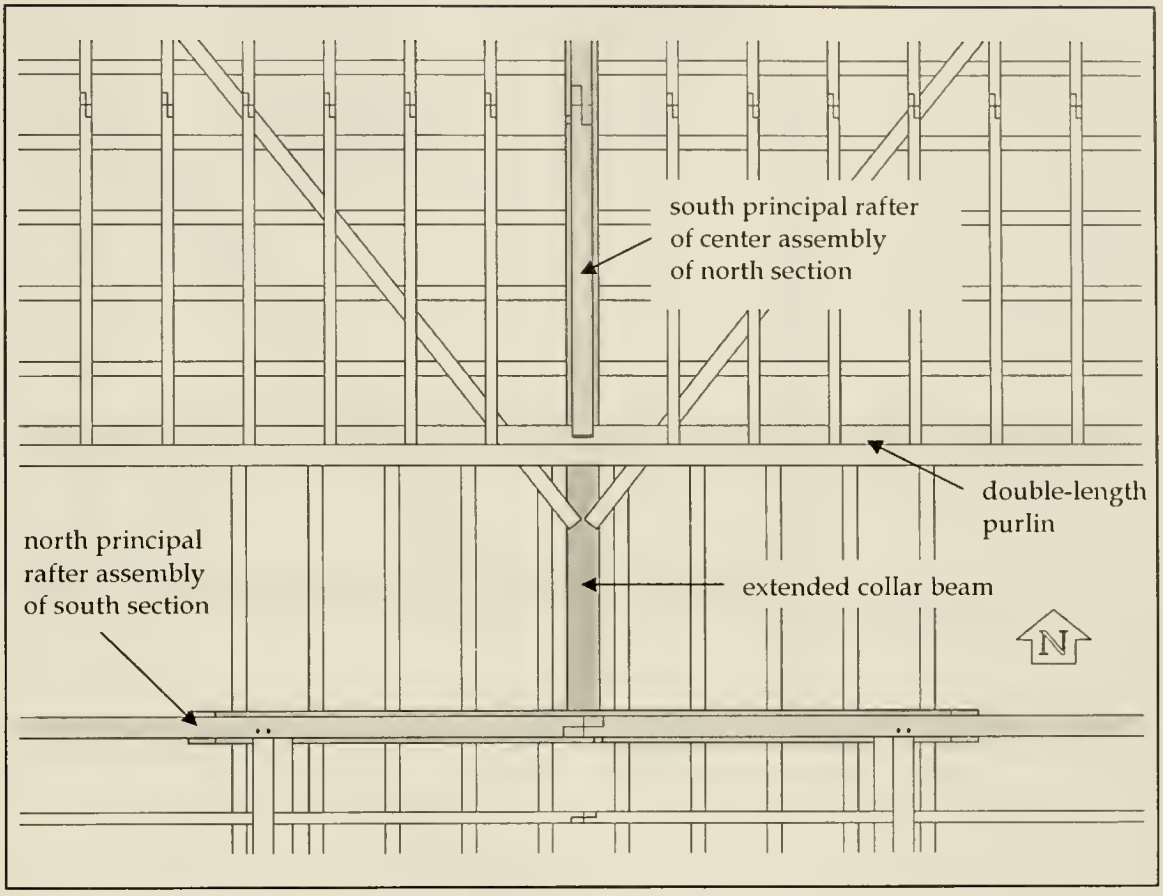


Figure 31:
Plan view of center principal rafter assembly of north section and north principal rafter assembly of south section. Represents original configuration before chimney was installed. South principal rafter of center assembly of north section bends to meet extended collar beam forming a miniature "cruck." The structure is stabilized by a double-length purlin joined to the "cruck" rafter with a modified mortise-and-tenon joint.

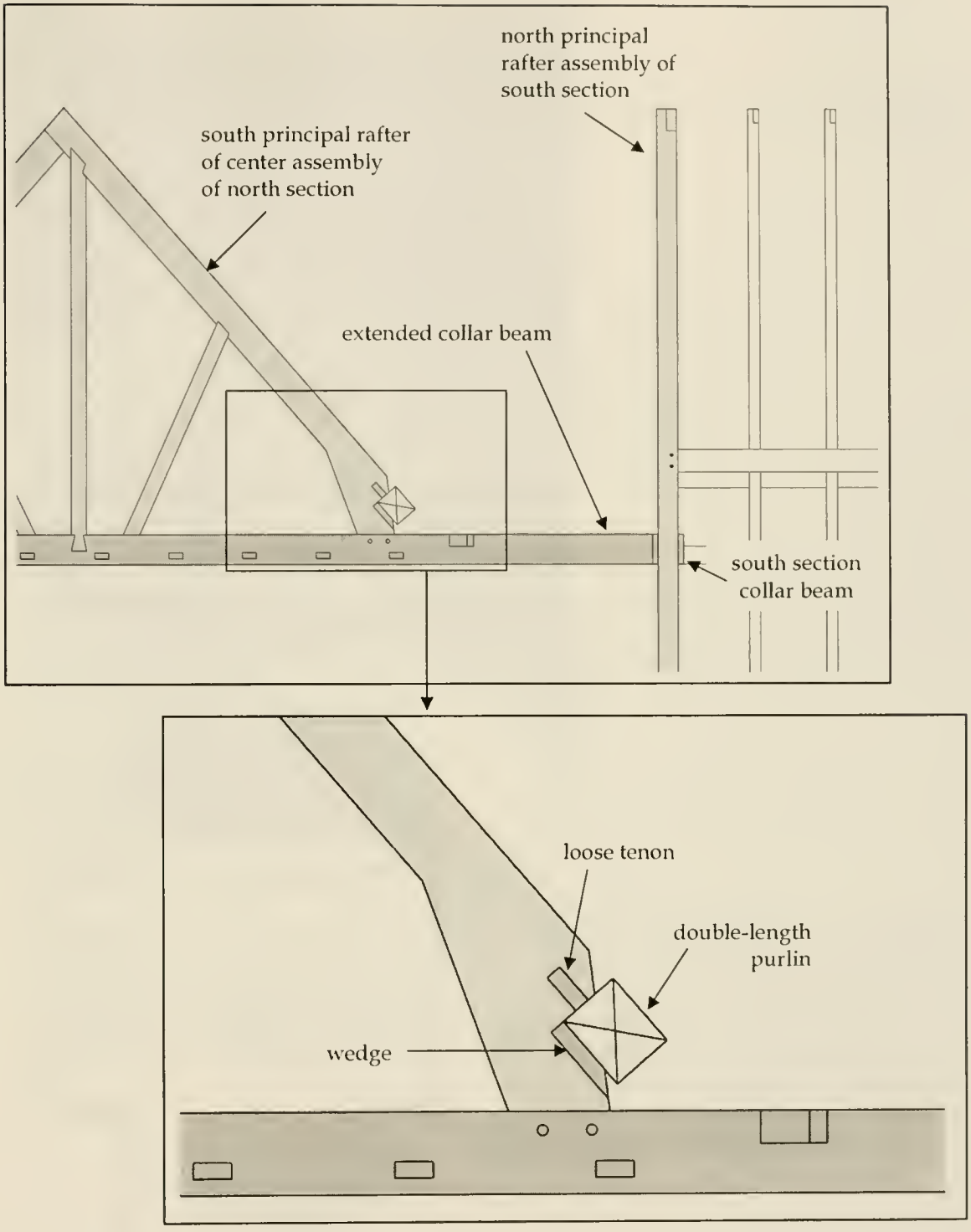
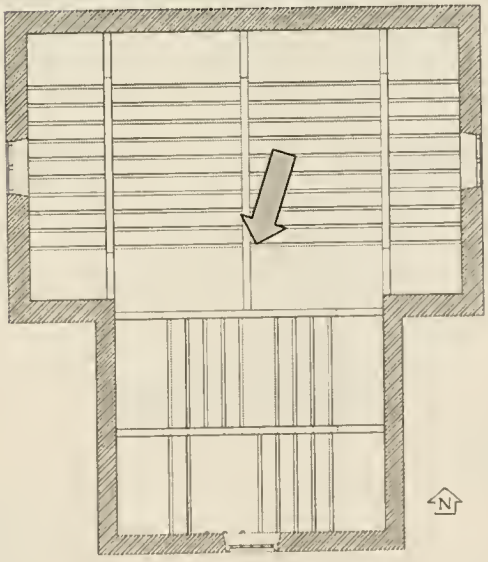
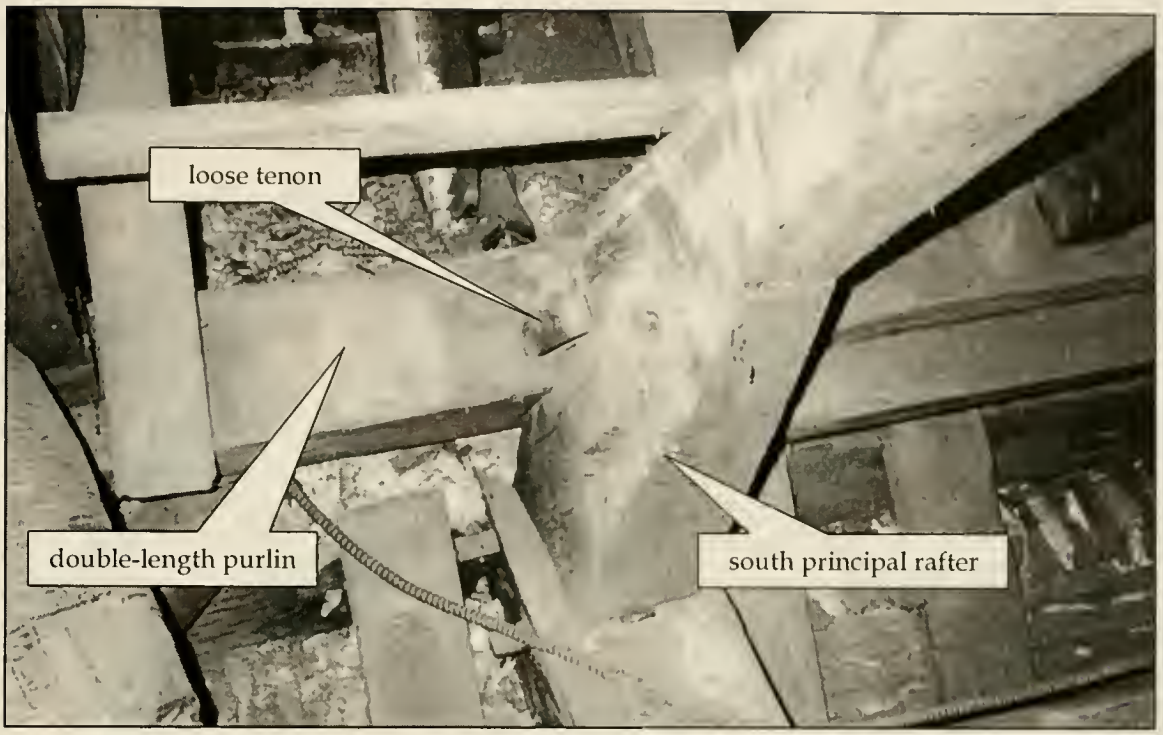


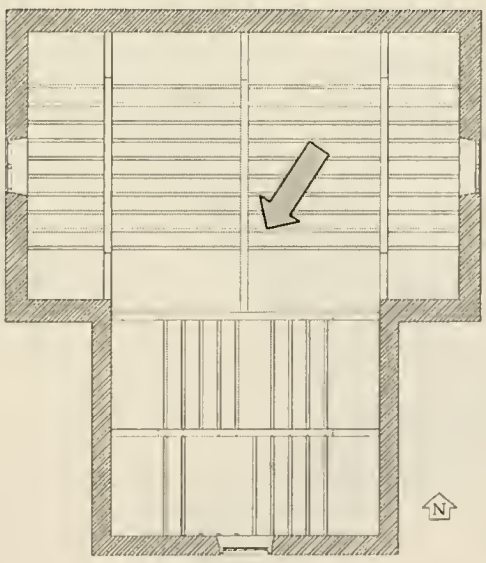
Figure 32:
Section view of center principal rafter assembly of north section and north principal rafter assembly of south section (before chimney). Detail shows modified mortise-and-tenon joint connecting "cruck" principal rafter with double-length purlin.



Attic Plan

Figure 33:
Base of south principal rafter of the center principal rafter assembly of north section. This rafter is shorter than the typical rafters. Its base forms a miniature "cruck" to join its own extended collar beam. The chimney (added c. 1829) is visible in the background.
Photograph by author, 2002.





Attic Plan

Figure 34:
Base of south principal rafter of the center principal rafter assembly of north section. A portion of the rafter has been cut away to reveal the loose tenon that joins the rafter and double-length purlin. Photograph by author, 2002.

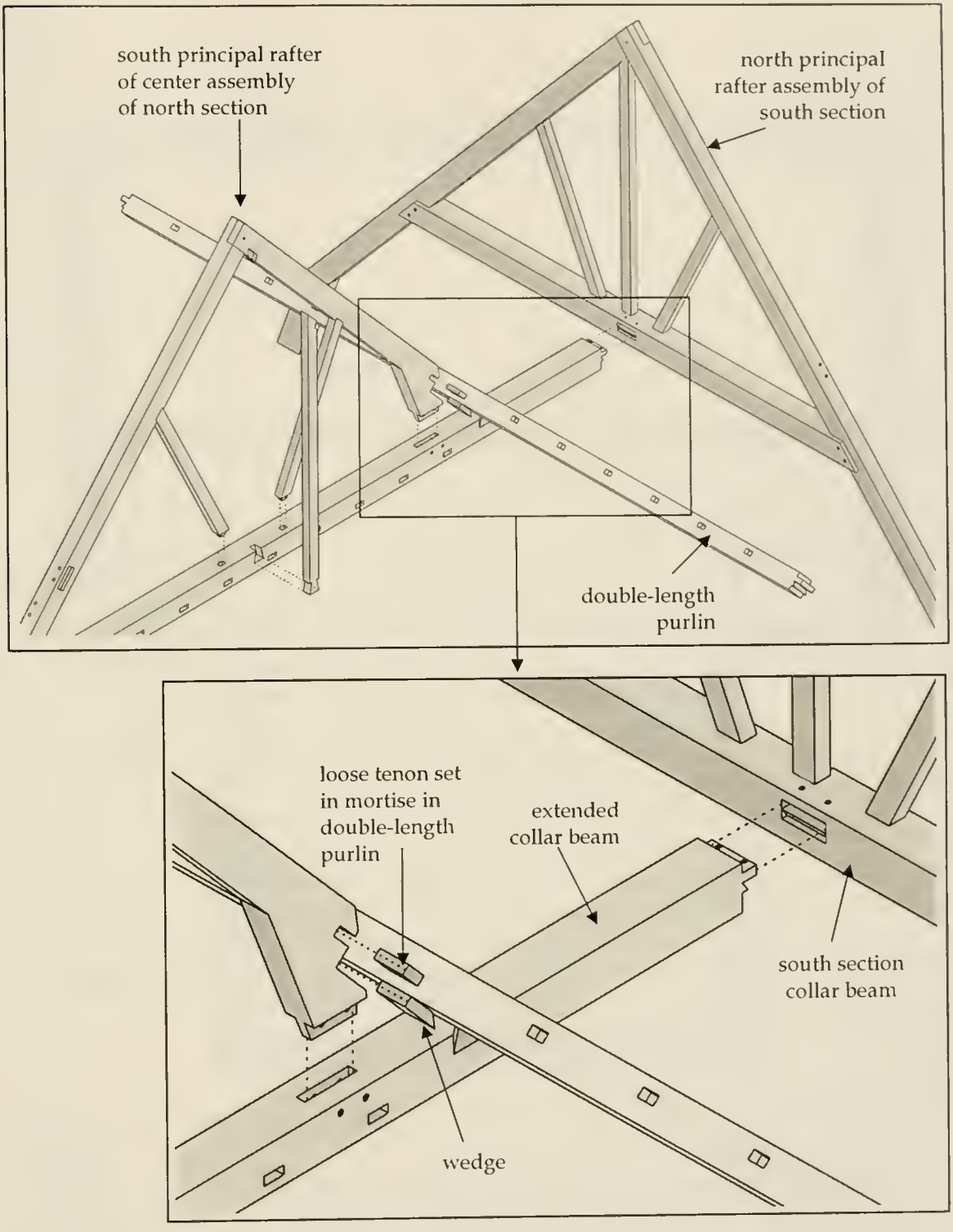


Figure 35:
Exploded three-dimensional view and detail of center principal rafter assembly of north section and north principal rafter assembly of south section (before chimney).

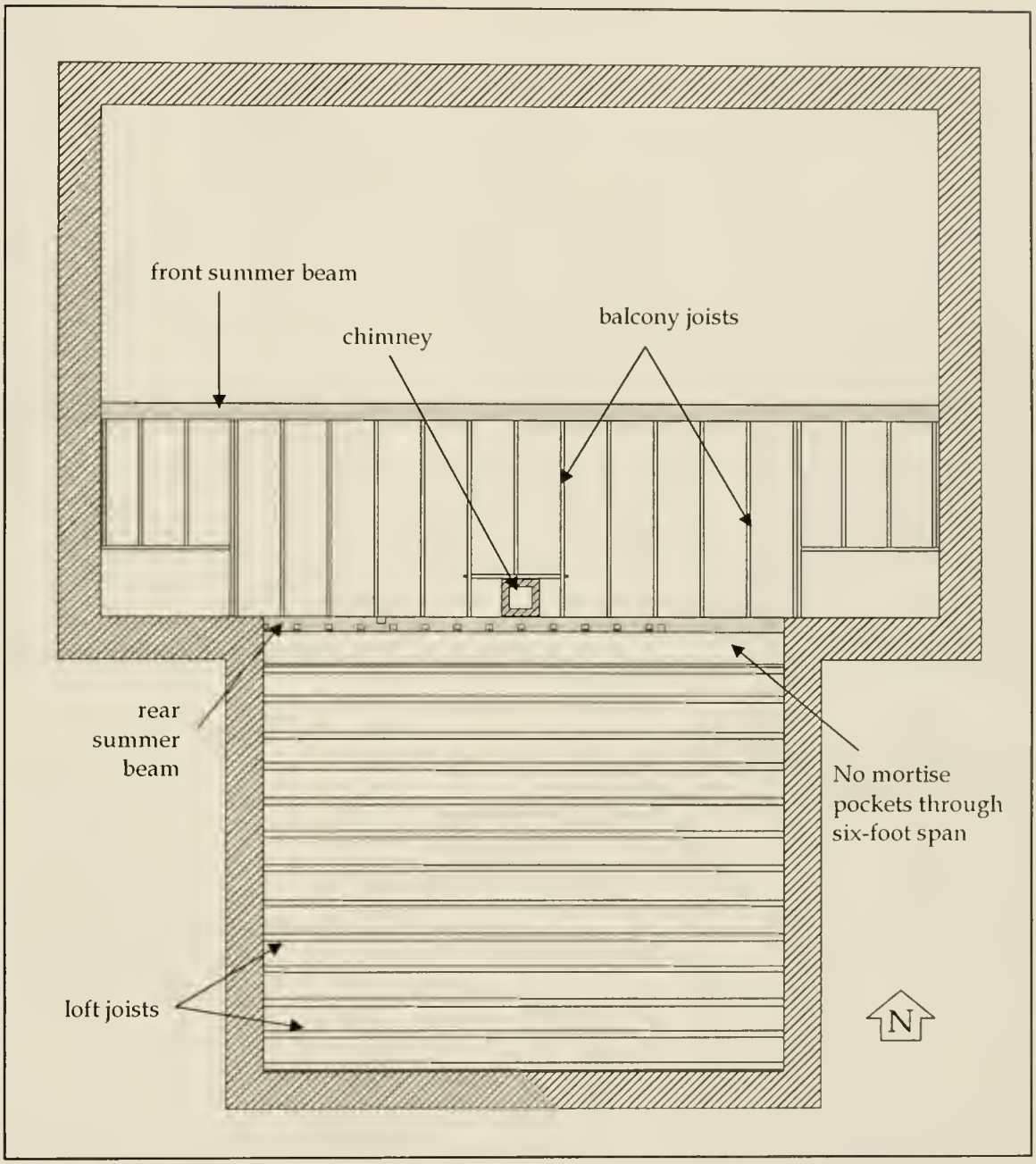


Figure 36:
Plan of loft and current balcony framing installed c. 1829. Note mortise pockets spaced on 17-inch centers on south face of rear summer beam of the balcony. There are no mortise pockets in east six feet of the rear summer beam. The loft joists are pocketed into the masonry of the east and west walls. They appear to be original and unaltered.

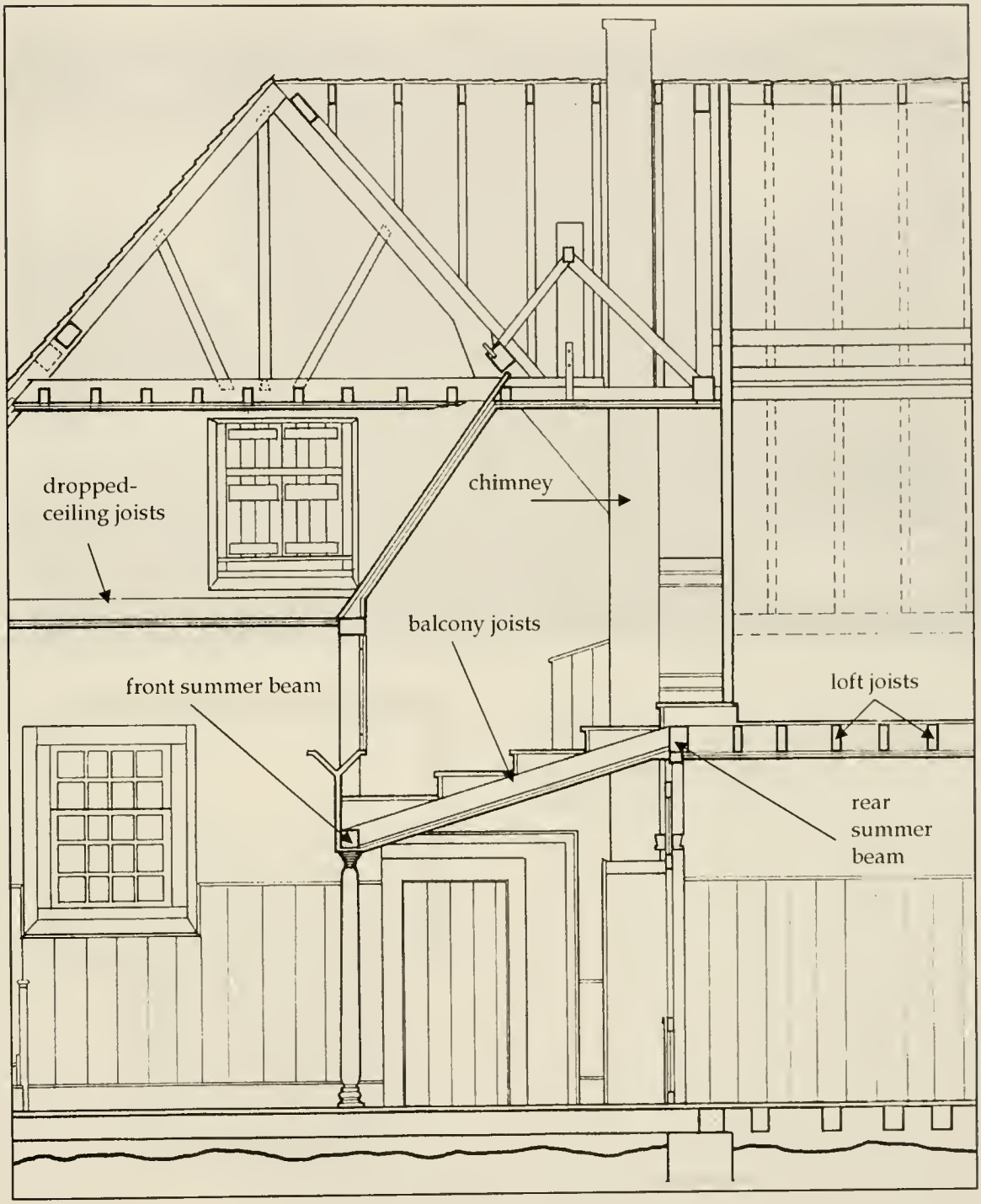
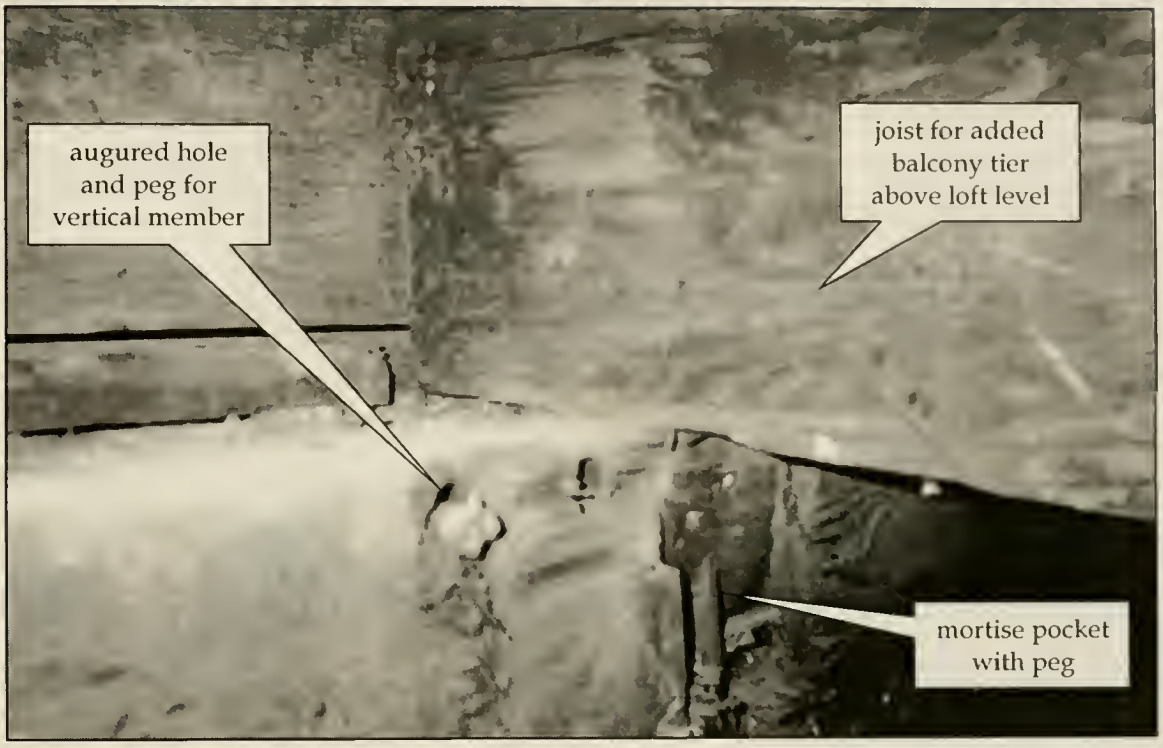
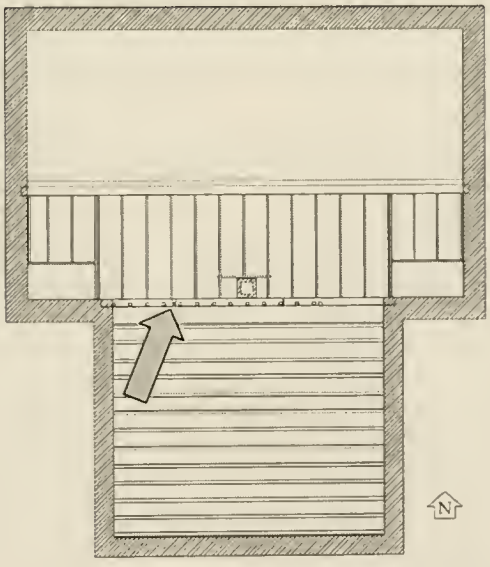


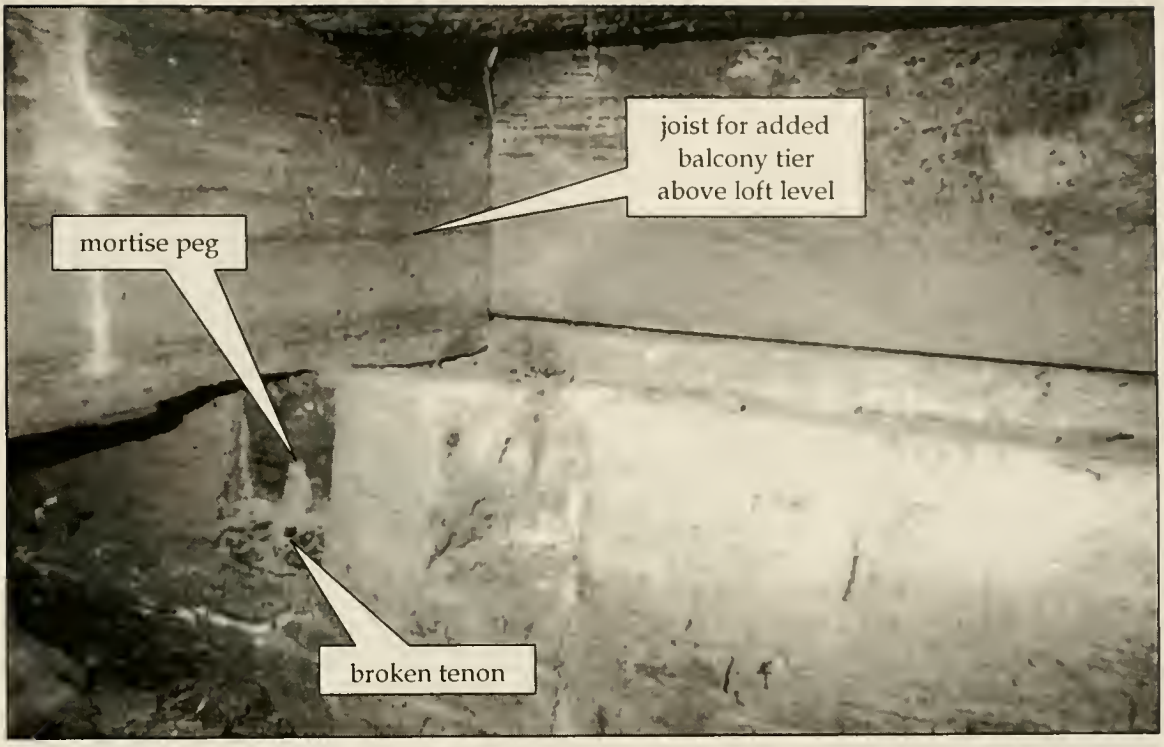
Figure 37:
Merion Friends Meeting House, Detail of longitudinal section looking east. Note balcony and loft framing. Historic American Buildings Survey, National Park Service, PA-145. Drawn by A. Maksay and R. Miller, 1997.

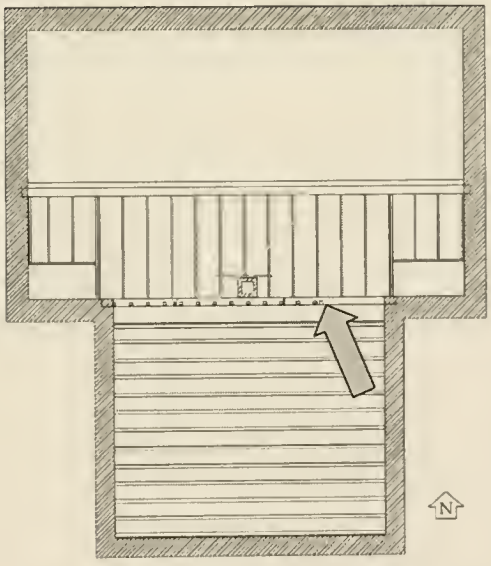




Loft & Balcony Framing Plan

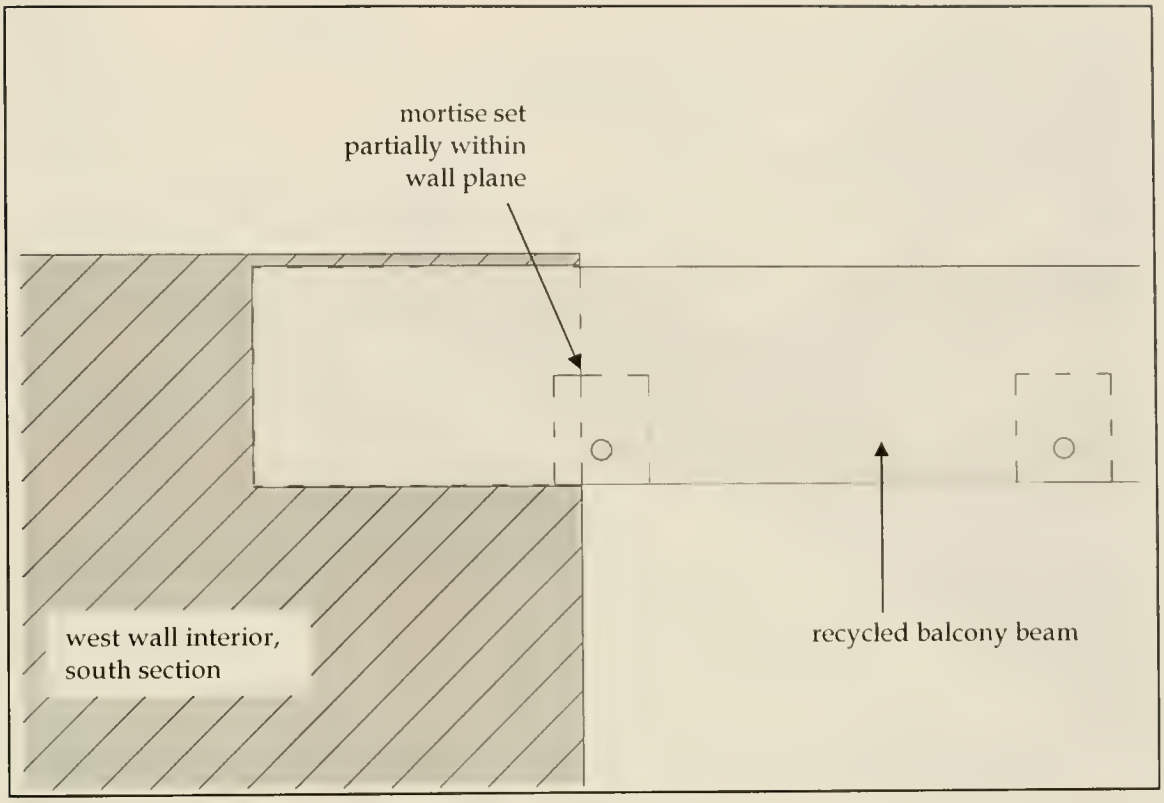
Figure 38:
Vacant mortise pocket and peg holes in recycled balcony beam.
Photograph by author, 2002.

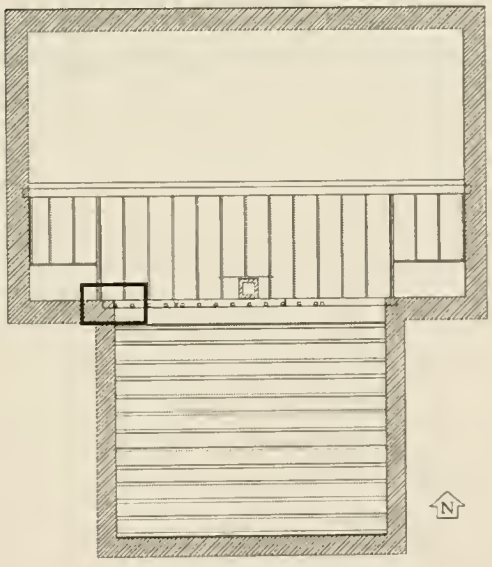




Loft & Balcony Framing Plan

Figure 39:
Vacant mortise pocket with broken tenon and peg in recycled balcony beam. Photograph by author, 2002.





Loft & Balcony Framing Plan

Figure 40:
Plan view detail of recycled balcony beam set in masonry wall. Westernmost mortise is set partially within the wall plane of the west masonry wall. Balcony joists not shown.

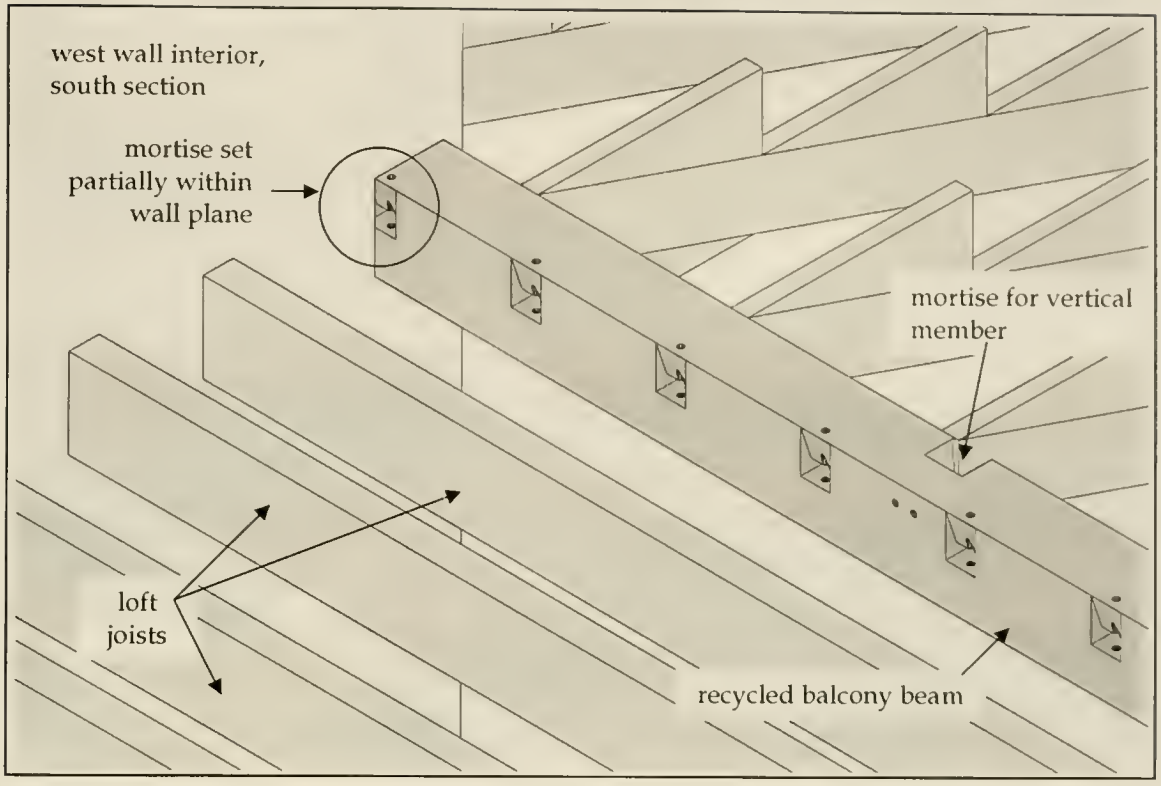
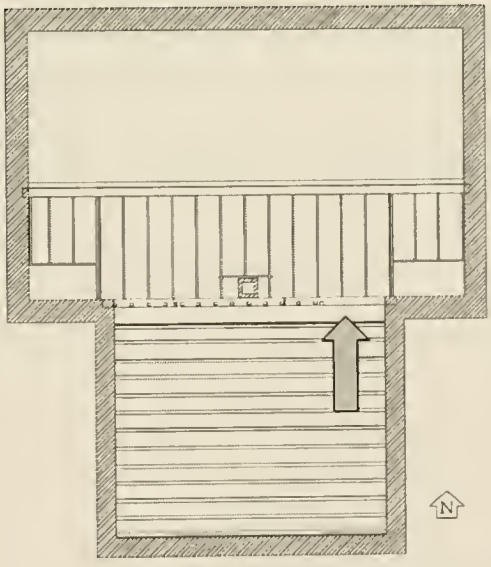


Figure 41:
Three-dimensional view of recycled balcony beam. Westernmost mortise is set partially within the wall plane of the west masonry wall.

soiled upper surface of recycled beam
thin white stain separating soiled and clean surfaces
clean lower surface of recycled beam



Loft & Balcony Framing Plan

Figure 42:
Demarcation line between soiled and clean surfaces on south face of recycled balcony beam.
Photograph by author, 2002.

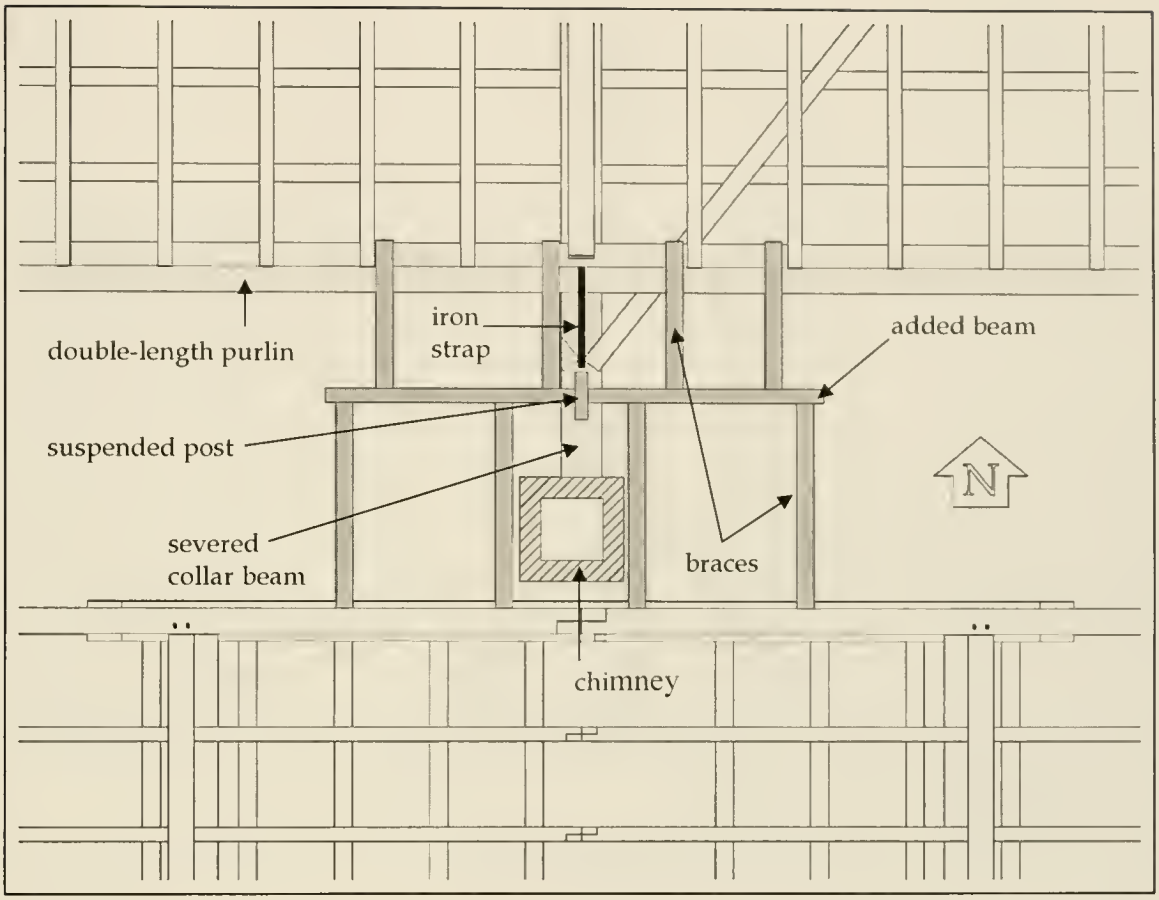


Figure 43:
Plan view of added A-frame roof support for severed collar beam.

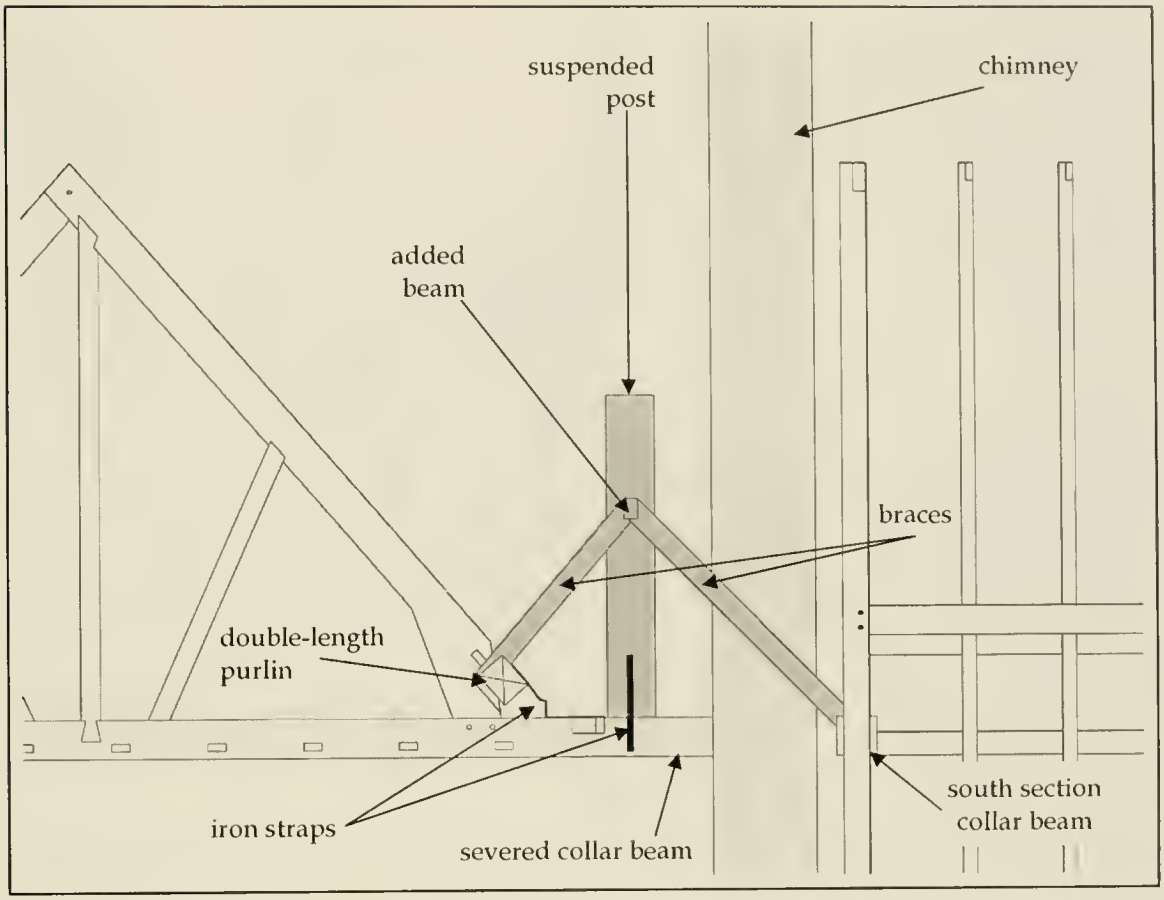


Figure 44:
Section view of added A-frame roof support for severed collar beam looking east.

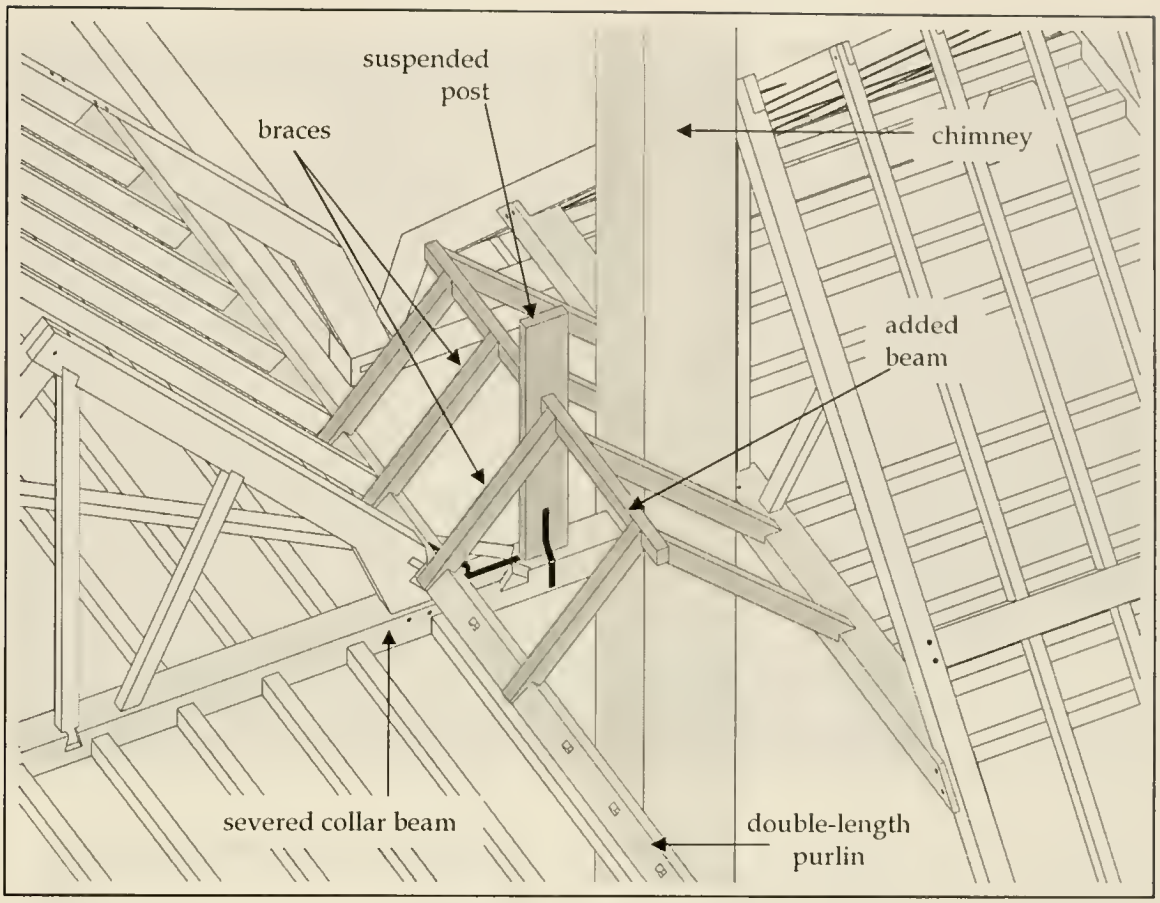
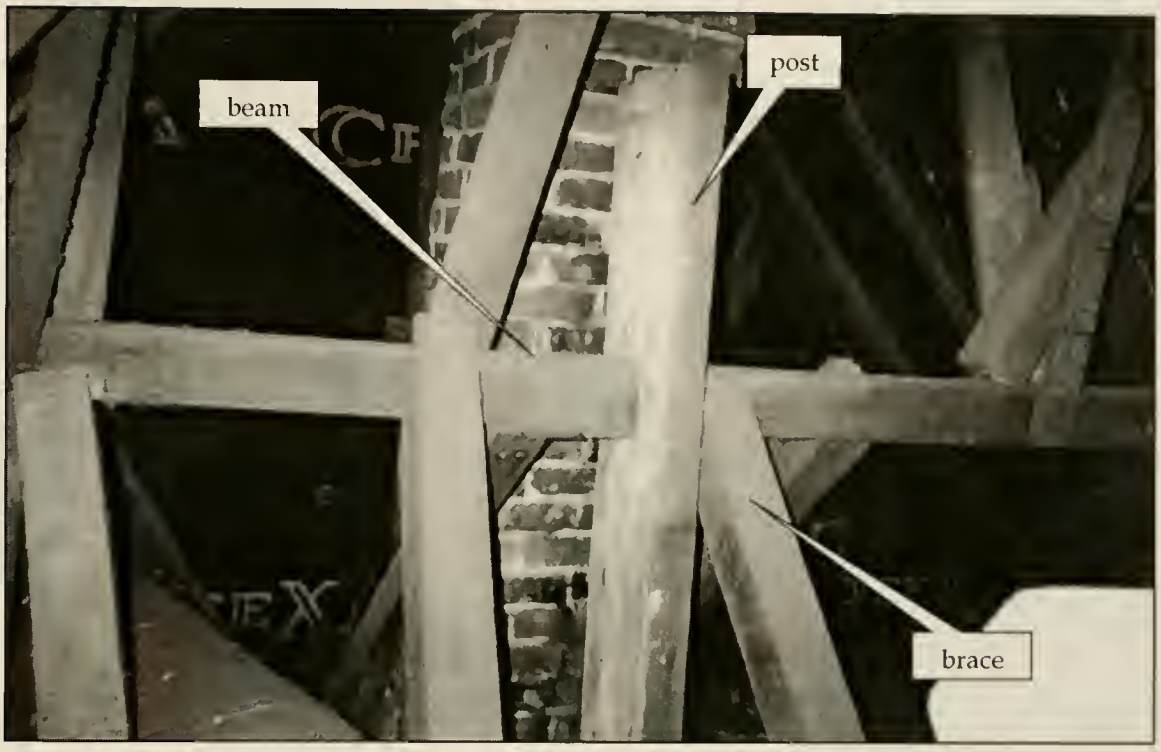
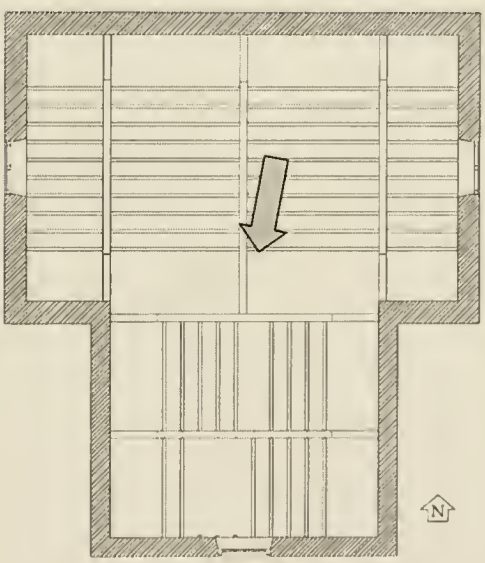


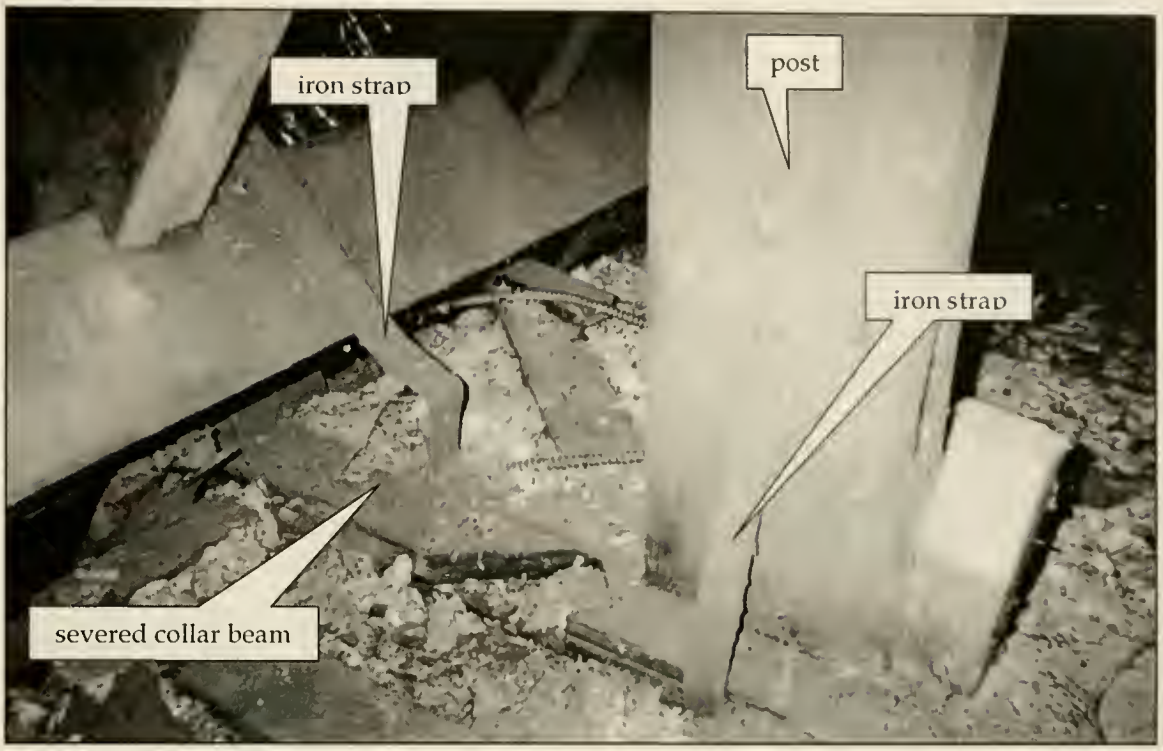
Figure 45:
Three-dimensional view of added A-frame roof support for severed collar beam looking southeast.

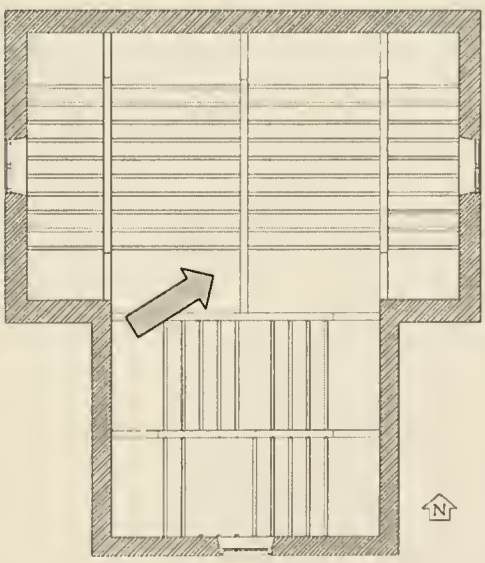




Attic Plan

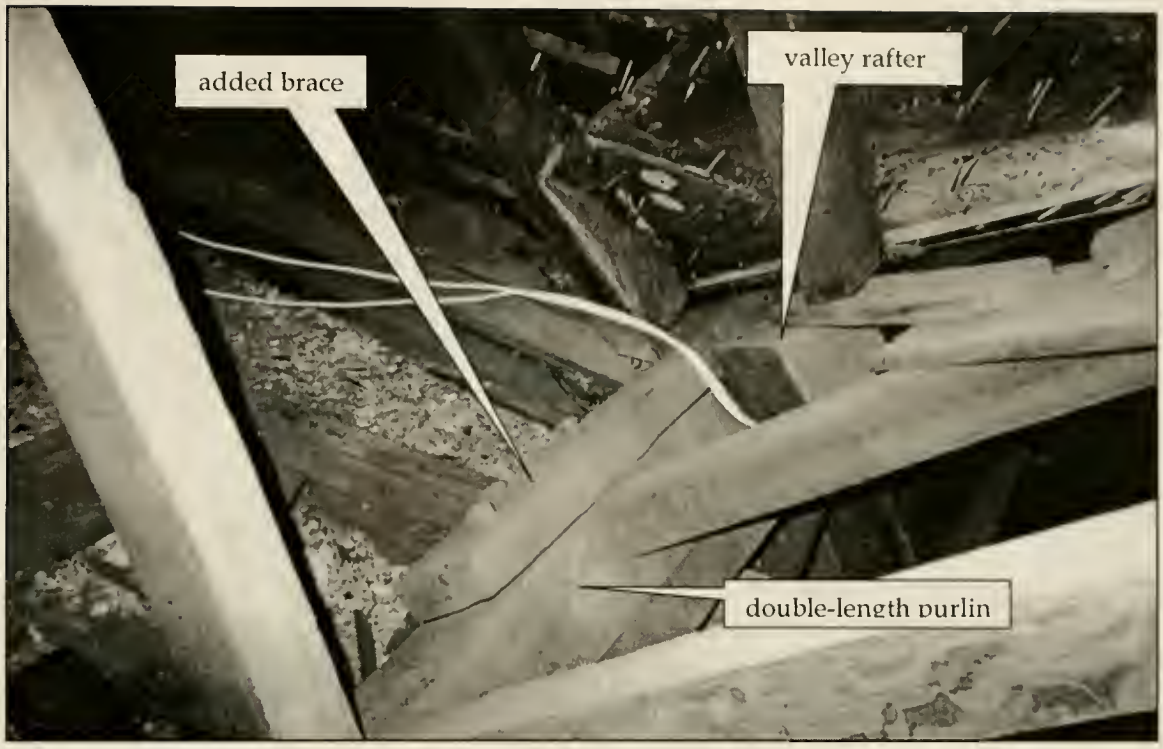
Figure 46:
Detail of rigged A-frame roof support and central chimney installed circa 1829. The beam and braces appear to be pit-sawn members recycled from the original roof structure.
Photograph by author, 2002.

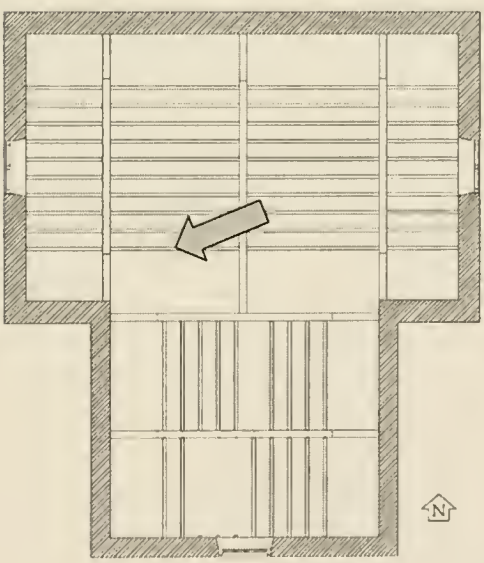




Attic Plan

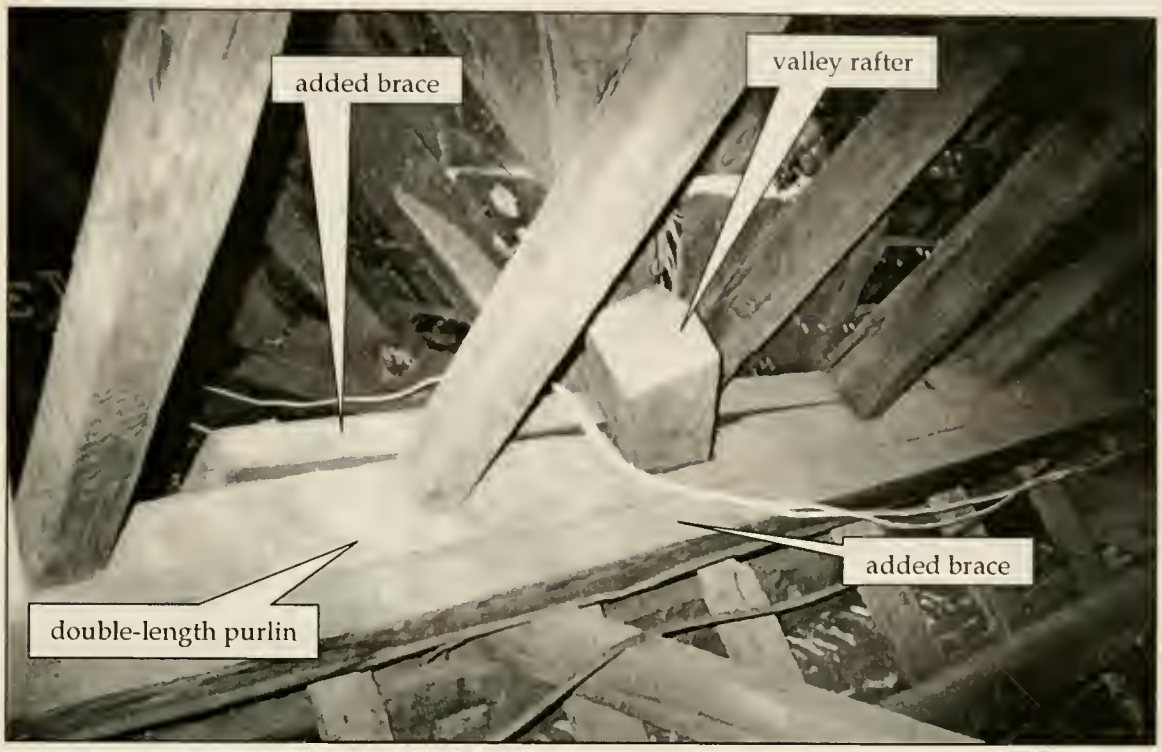
Figure 47:
Detail of rigged A-frame roof support installed circa 1829.
Photograph by author, 2002.

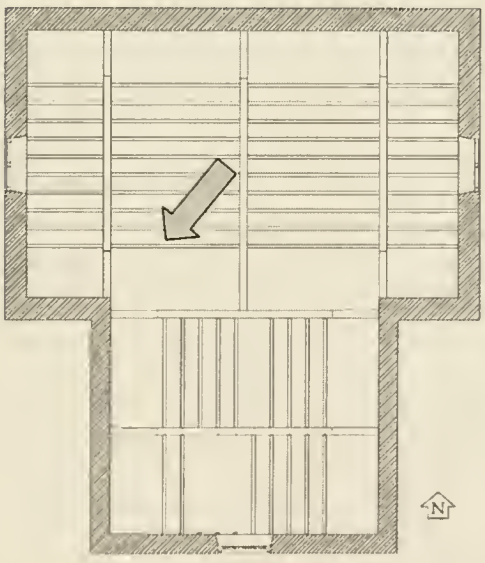




Attic Plan

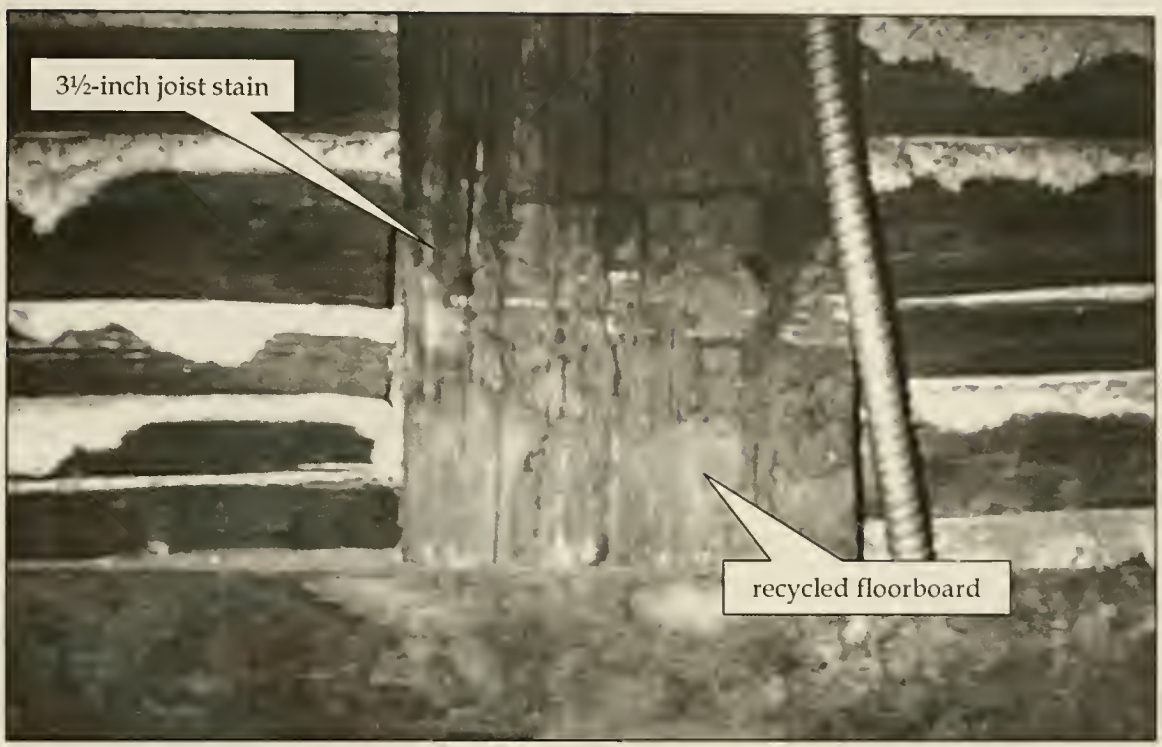
Figure 48:
Southwest roof valley framing, showing replaced valley rafter and braces added to reinforce double-length purlin.
Photograph by author, 2002.

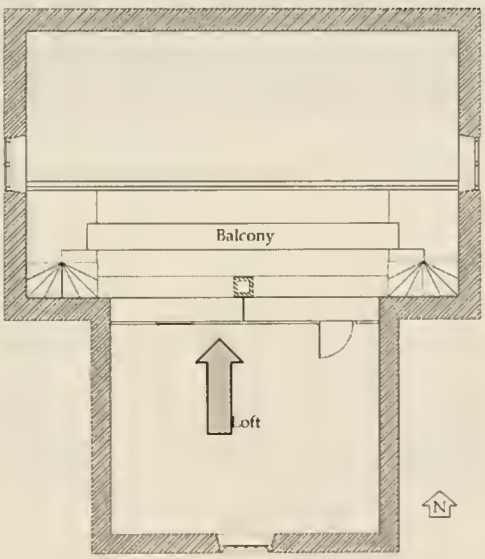




Attic Plan

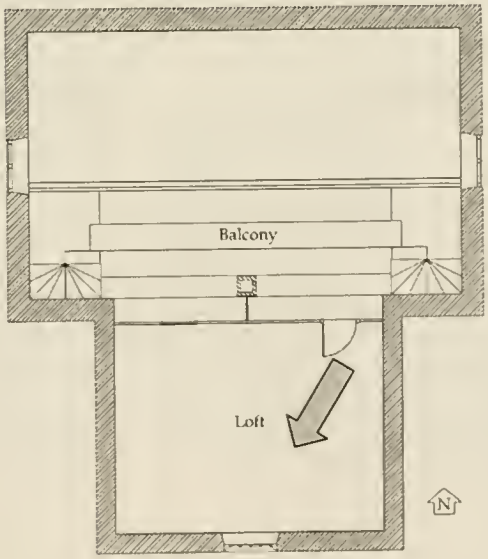
Figure 49:
Southwest roof valley framing, showing replaced valley rafter and braces added to reinforce double-length purlin.
Photograph by author, 2002.





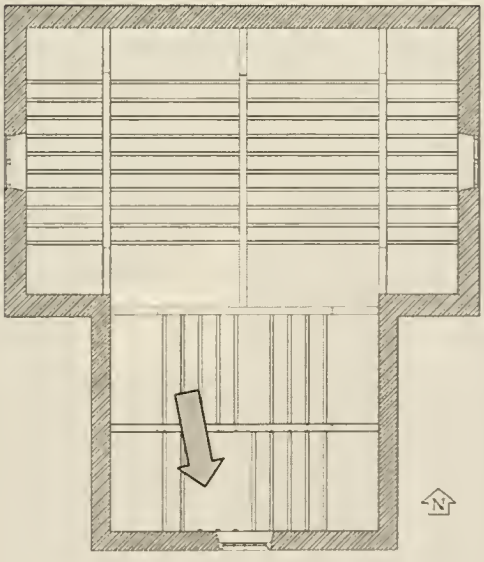
Loft Floor & Balcony Plan

Figure 50:
Detail showing 3½-inch joist stain on south side of recycled floorboard in loft partition wall.
Photograph by author, 2002.



Loft Floor & Balcony Plan

Figure 51:
Loft over south room looking south toward gable wall. The unfinished collar joists and partially plastered south gable wall are visible.
HABS photograph No. PA-145-35
by Jack E. Boucher, Photographer,
1997-1999.



Attic Plan

Figure 52:
Detail showing cut off collar joists at south gable wall. A leveling plate used by the masons over the joists is also visible.
Photograph by author, 2002.

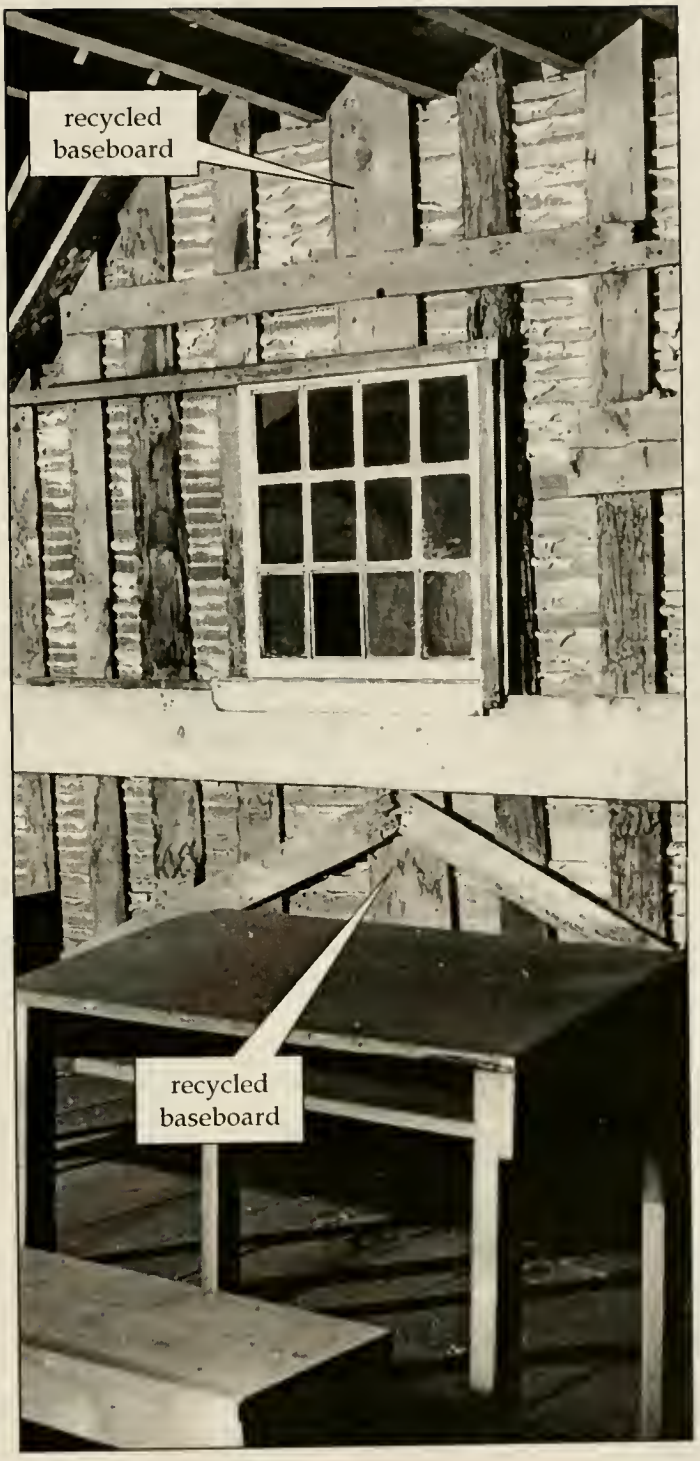
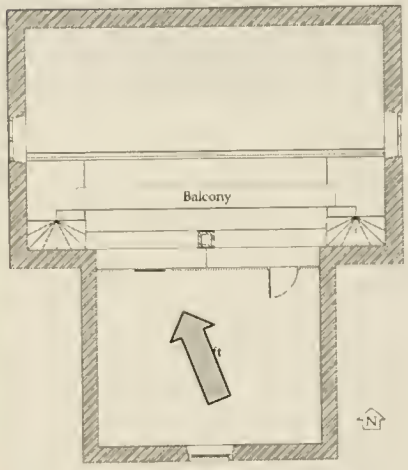
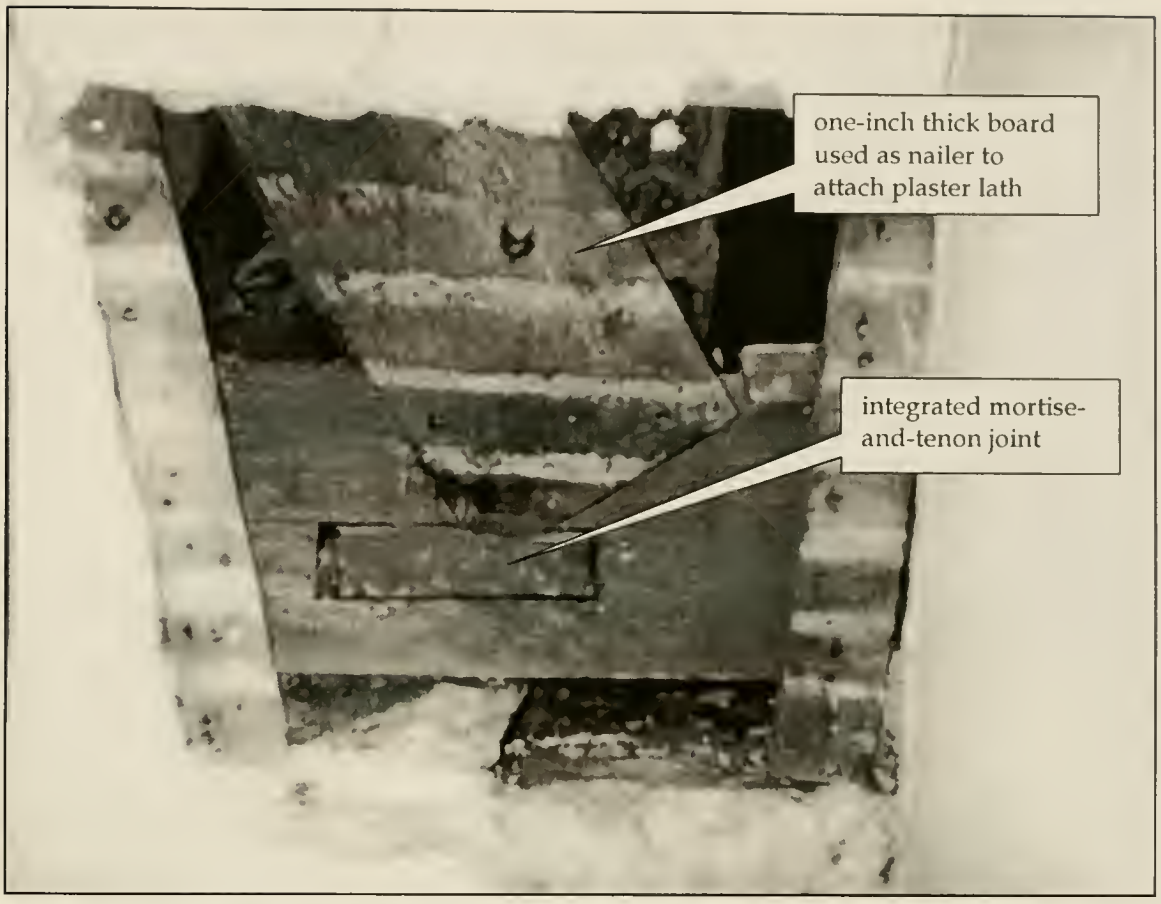
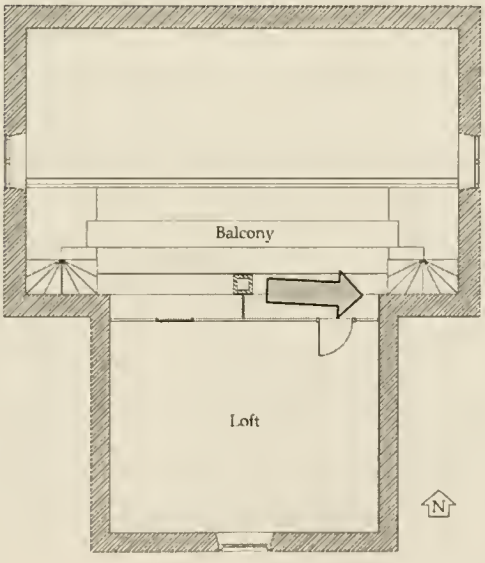


Figure 53:
Detail of loft partition wall. The partition wall boards located directly above and below the window sash appear to be from the same recycled baseboard that was cut when the window was installed. The board is decorated with a ½-inch bead on one edge. *Life* magazine photo for the Quaker section of "American Faith" series, 1945.
Merion Friends Meeting Archives Collection.



Loft Floor & Balcony Plan





Loft Floor & Balcony Plan

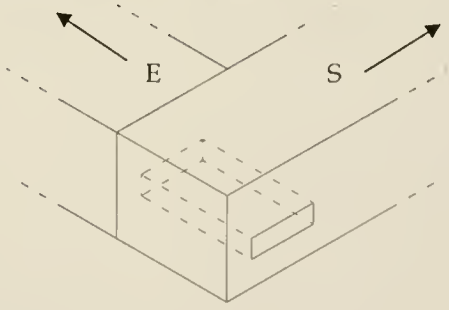
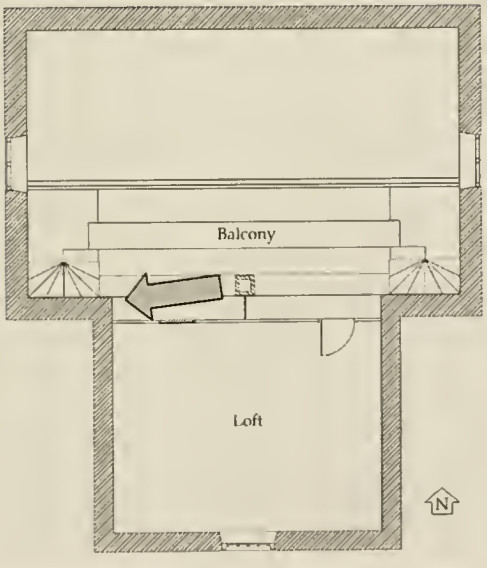


Figure 54:
Rafter plate joint at southeast corner of two sections. The rafter plates are the same dimensions and are joined with mortise-and-tenon as shown in diagram. Photograph by author, 2001.



Loft Floor & Balcony Plan

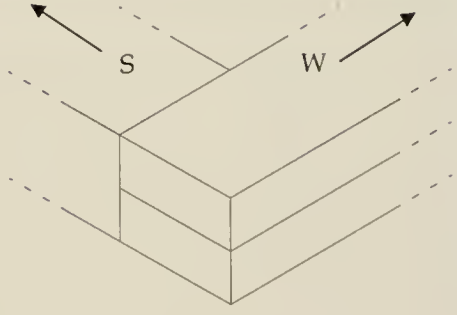


Figure 55:
Rafter plate joint at southwest corner. The plates are different dimensions and meet without joining as shown in diagram. Damaged timber was replaced. The east/west plate has been rebuilt using two stacked pieces of lumber. Photograph by author, 2001.

Figure 56:
Interior view of casement window frame, northwest gable wall.
Photograph by author, 2002.

Figure 57:
Detail of vertical and horizontal mullions of casement window frame, northwest gable wall.
Photograph by author, 2002.

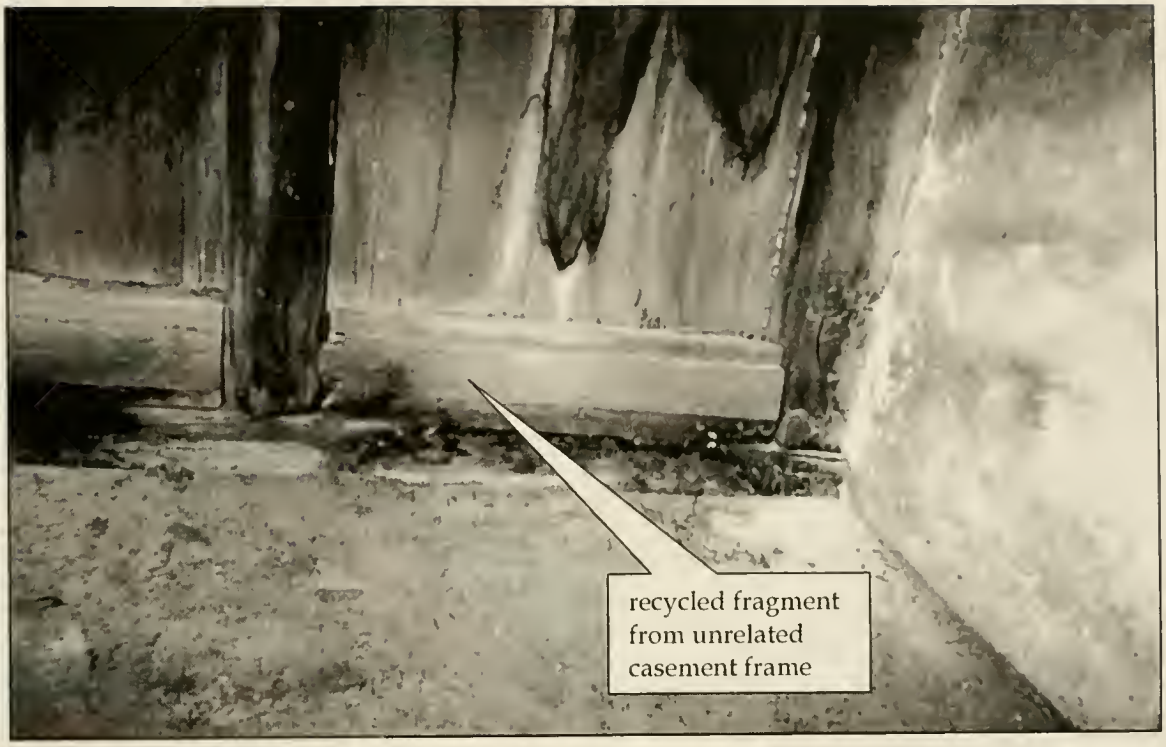


Figure 58:
Recycled fragment of early casement window frame used as nailer for exterior shutters, northwest gable wall.
Photograph by author, 2002.

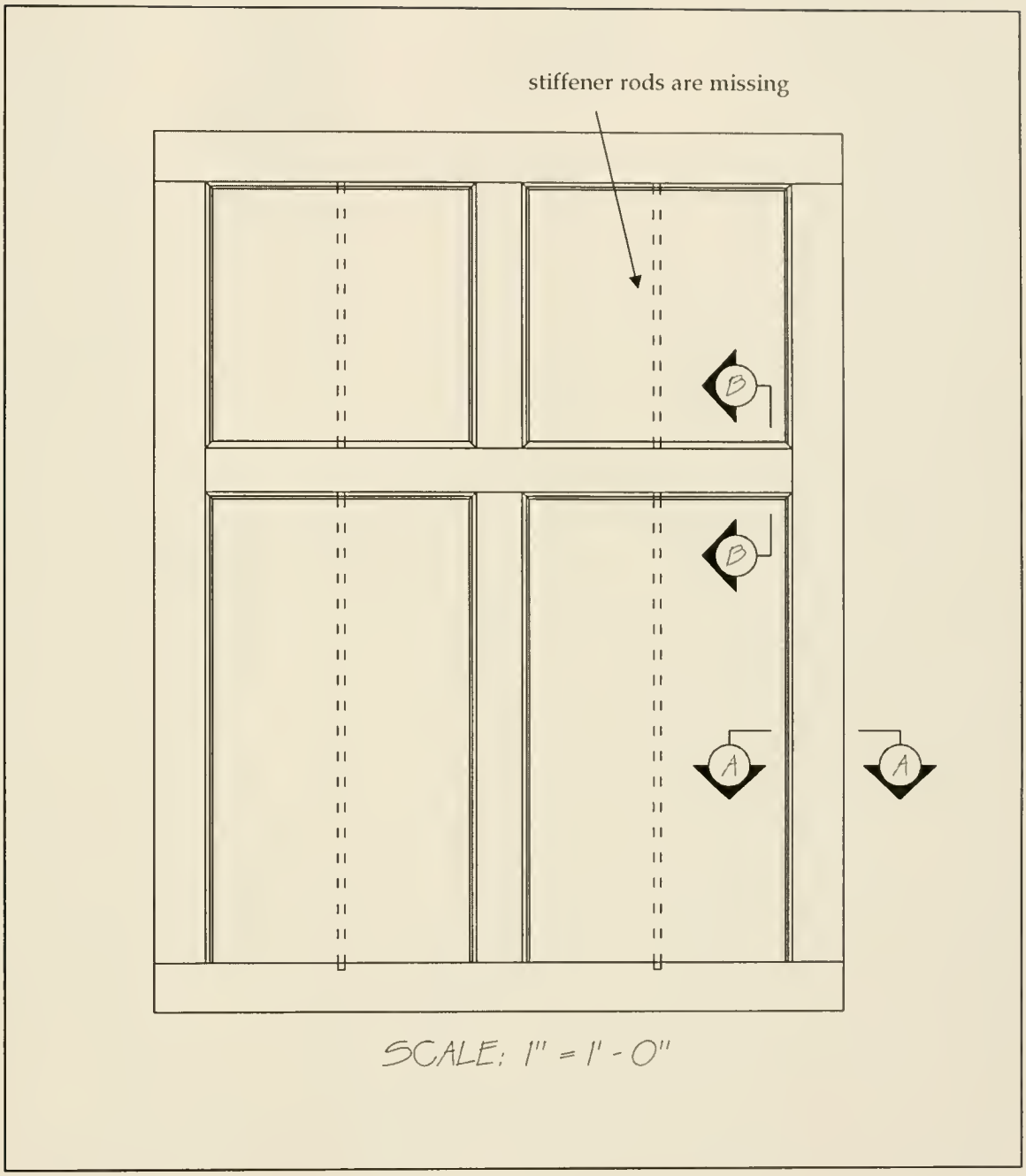


Figure 59:
Interior elevation of casement window, west gable wall, north section. See Figure 60 for details of Sections A & B.

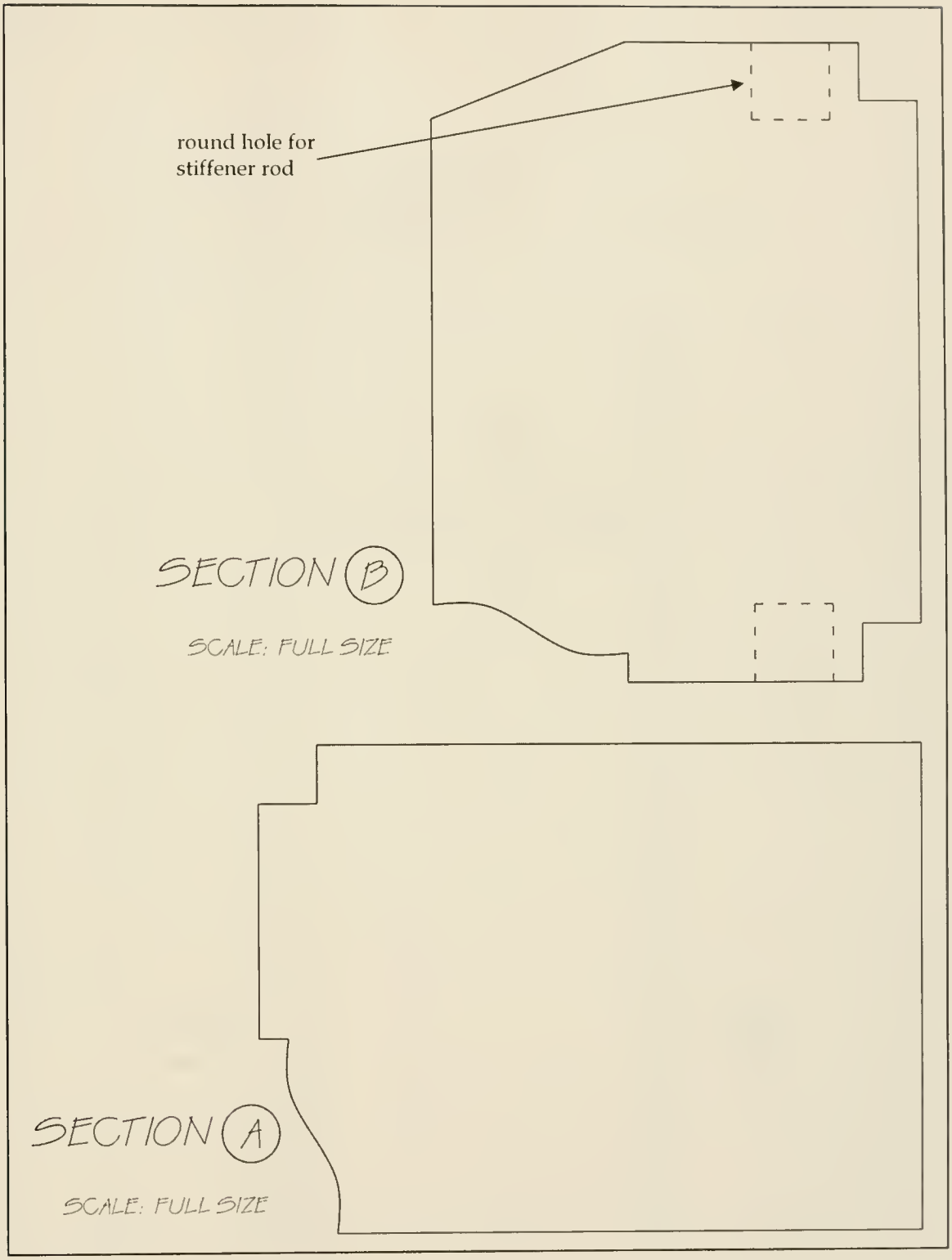


Figure 60:
Section drawings of casement window jamb, Section A, and horizontal mullion, Section B. See Figure 59 for reference.

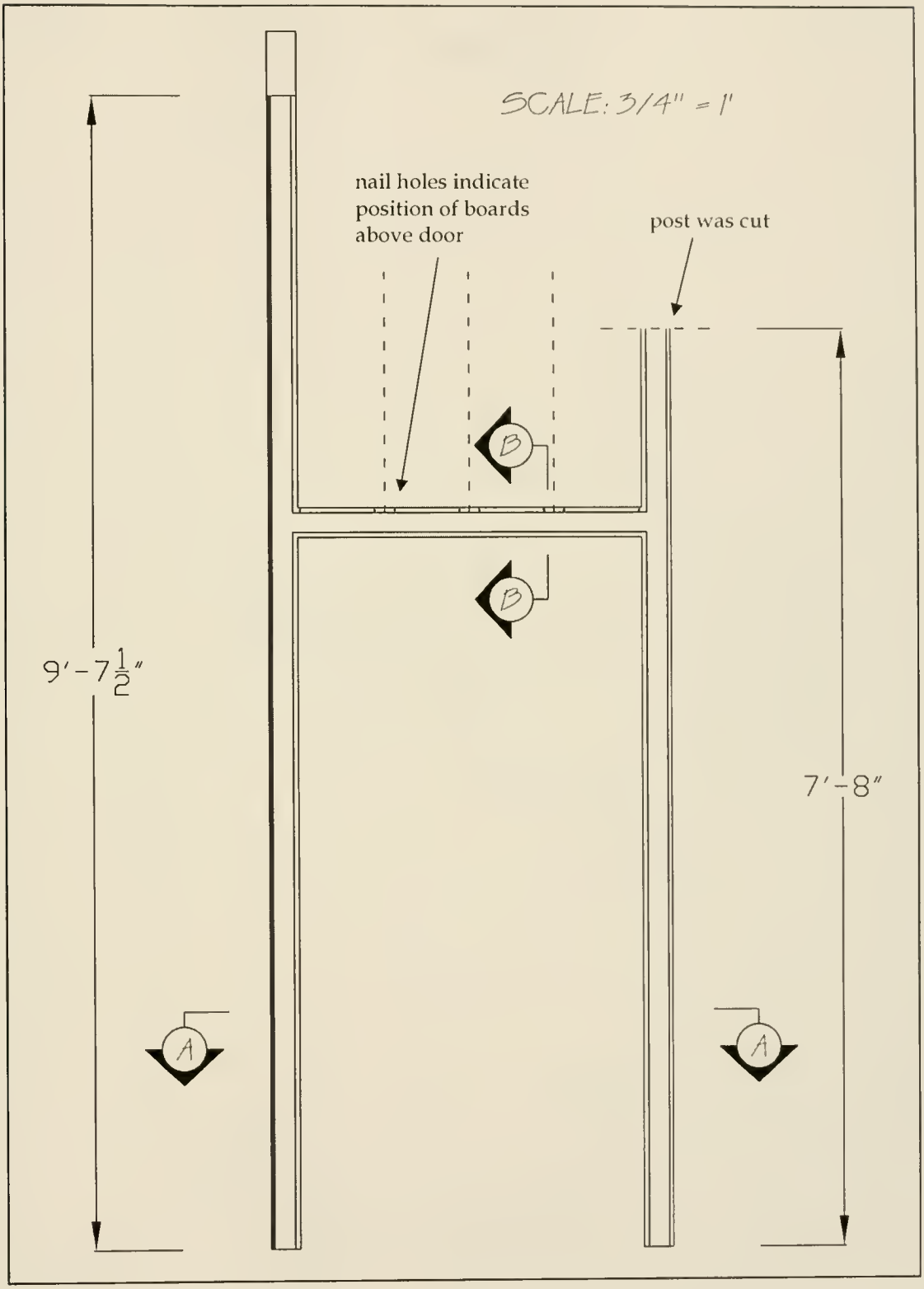


Figure 61:
South elevation of loft door frame. See Figures 62 & 63 for details of Sections A & B.

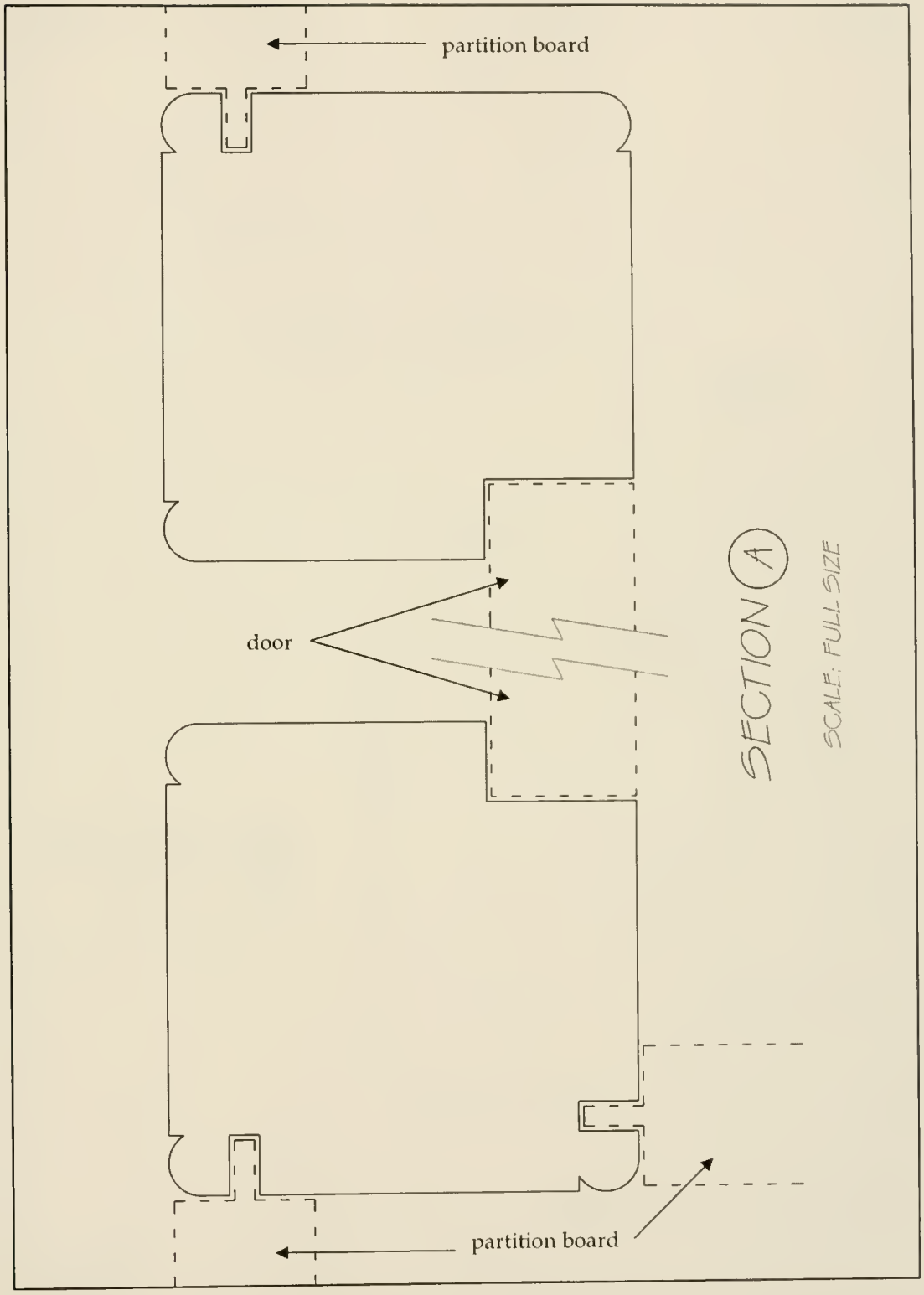


Figure 62:
Section drawings of loft door frame jambs, Section A. See Figure 61 for reference.

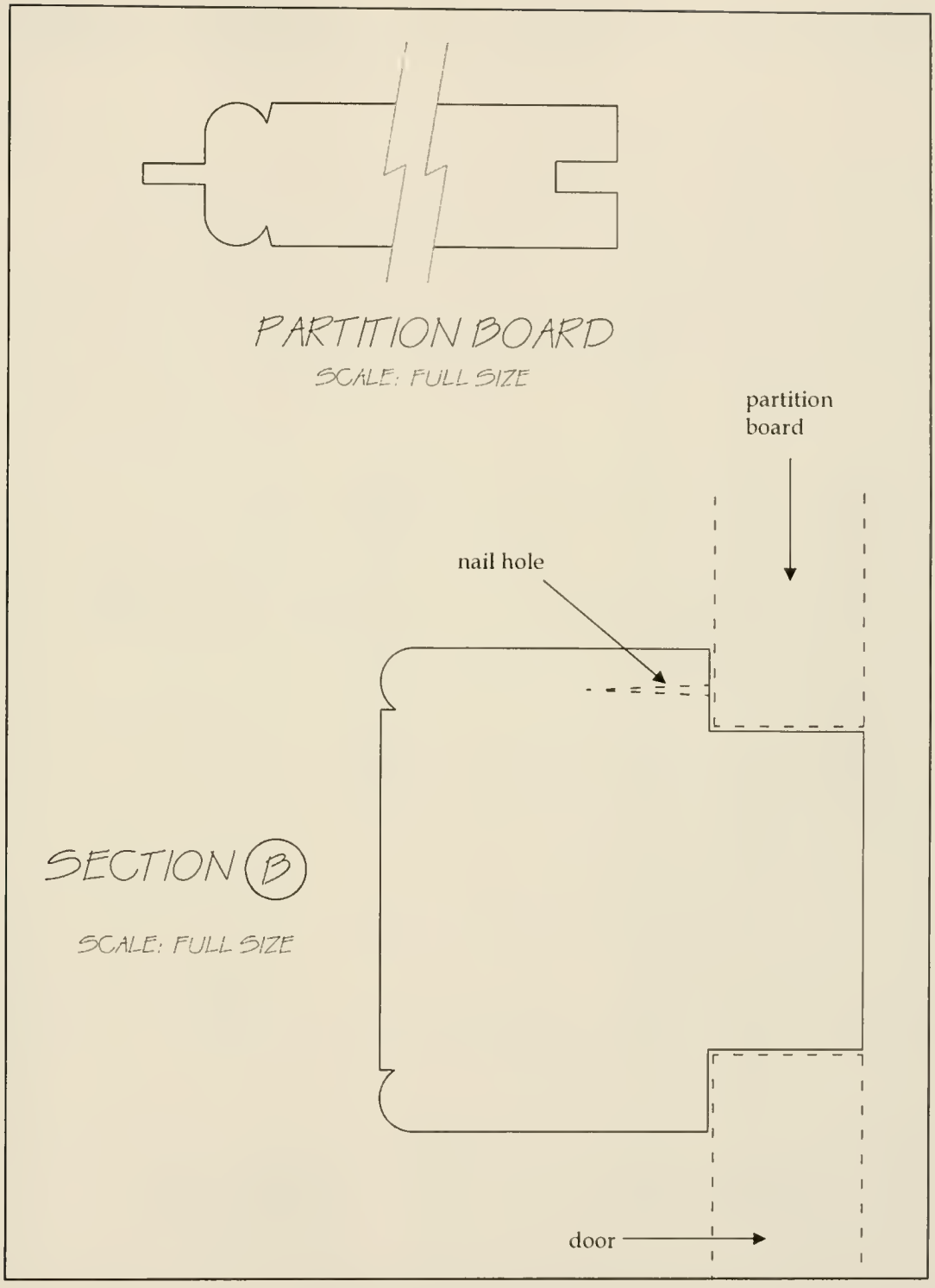


Figure 63:
Section drawing of loft door frame header, Section B, and partition board recycled as balcony flooring. See Figure 61 for reference.

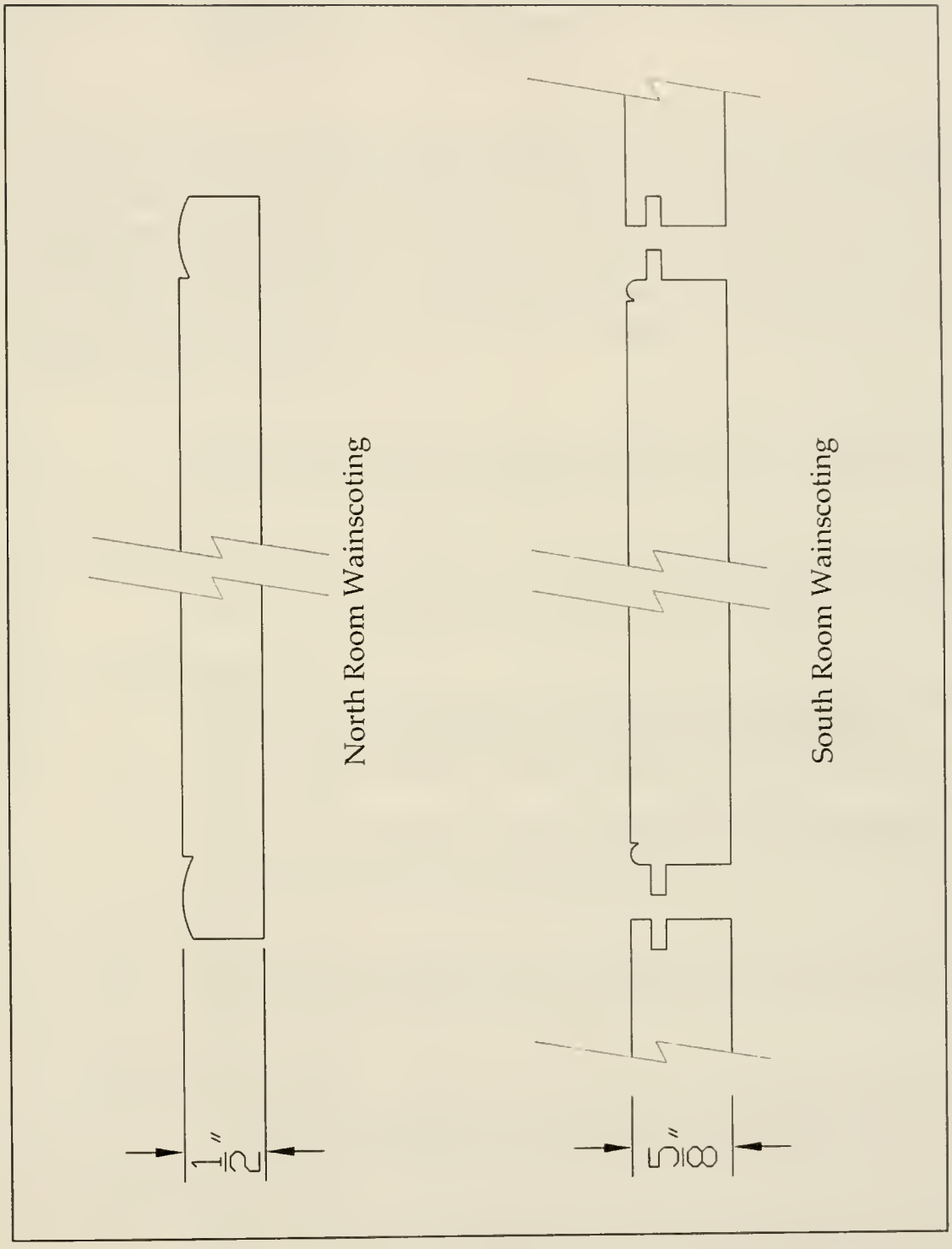


Figure 64:
Section drawings of wainscoting in north and south rooms.

APPENDIX B: TRANSCRIPTION OF SELECTED MINUTES OF THE MERION PREPARATIVE MEETING, 1702-1705

The following is a transcription of relevant entries from the Merion Preparative Meeting minutes recorded between 1702 and 1705. The following was transcribed from a microfilm copy of the original document, Merion Preparative Meeting Minutes, 1702-1705, Microfilm MR-Ph300, available for reference at the Friends Historical Library, Swarthmore College, Swarthmore, PA. Many of the minutes are also quoted in Samuel J. Bunting, Jr., *Merion Meeting House (1695-1945): A Study of Evidence Relating to the Date* (Merion, PA: Merion Meeting, 1945), 10-12.

5th of 4th month 1702

"Griffith John & Robert Jones are appointed to gett a Carpenter to make benches in the meeting house."

5th of 1st month 1703

"Robert Roberts is appointed to make a Cupboard in ye meeting house to the use of ye meeting to keep friends Bookes or papers."

7th of 3rd month 1703

"John Moore is desired to make a grybeing how to the Use of the meeting, and hookes and Staples to the meeting house windows.
Thomas Jones is appointed to gett hinges and Lock for the meeting house closett."
"Owen Roberts and Robert Jones are appointed to gett boards Sawed for benchces & for the Loft, and to Speak with David Maurice concerning Secureing the meeting house."

4th of 4th month 1703

"John Moore is continued to make a grybeing how and hookes and staples to the meeting house and windows."

2nd of 5th month 1703

"Thomas Jones brought an account that he bought the hinges and Locks as he was appointed, for the meeting house closett."

6th of 6th month 1703

"John Robts haveing made account wth friends this day and there appears that there is due to friends 2£ - 19s – 11d whereof John Roberts owes 1£ 8s 5d which he pays for Saweing upon ye account of ye Meeting and 1£ 11s 6d which is to be determined whether John Robts or Robt Owens execut'r that is to pay it and John Robts pays 2£ 10s 0d .

. . which he pays for saweing also in the behalfe of ye meeting and 14s - 6d more of the said money vizt 1£ - 11s - 6d is to be paid for Saweing."

3rd of 7th month 1703

"John Roberts, Owen Roberts, & Robert Jones are appointed to See for Carpenters to Secure the Meeting house."

5th of 9th month 1703

"The friends appointed are Continued to See the meeting house Covering Repaired."

7th of 11th month 1703

"John Roberts is continued to gett some to Secure the Graveyard pales, it being now Unseasonable weather to do it."

"John Roberts brings an account that he paid 5s for mending the Graveyard pales and 12s for nails in full of 1£ - 11s - 6d that remained on his hand 14s 6d whereof he paid before for Saweing."

"That some have not paid their former Subscriptions to this meeting house be Spoken to and account thereof be brought to the next Preparative meeting."

4th of 12th month 1703

"Griffith John is Continued to Speake to those that have not paid their Subscriptions towards building the addition to ye meeting house, and to Receive it and to bring an account thereof to ye next meeting."

3rd of 1st month 1704

"It appears by Richard Thomas's account brought to this meeting that there is due to him for worke 1£ - 12s - 0d whereof he rec'd tenn shillings from Margarett Thomas, being a Legacy left by her husband to the use of friends and there Remains due to him 1£ - 2c - 0d which is Desired to be paid out of friends Collection, and to pay Robert Thomas and Moses Roberts what is due to them and to bring and account thereof to ye next meeting."

7th of the 2nd month 1704

"Account is brought that 1£ - 2s - 0d is paid to Richard Thomas, 0£ - 5s - 0d to Robert Thomas and 0£ - 3s - 9d to Moses Roberts paid and to be paid and Evan Griffith 1s - 8d all of the aforementioned being paid for worke upon the account of the meeting."

"Edward Rees, Edward Jones, Owen Roberts and Robert Jones are ordered to see for stones to build a meeting house, and to gett workmen to dig them."

5th of 3rd month 1704

"The friends appointed to See for stones to build a meeting house & to gett Some to dig them are still continued."

2nd of 4th month 1704

"The friends appointed are still Continued to see for stones to build a meeting. John Robert, Evan Harry and Rowland Richard are desired to Asist them."

3rd of 9th month 1704

"The work {men} employed by this meeting to dig stone desireing to be paid, Edward Rees & Griffith John are desired to answer them untill friends have an opportunity to collect them."

8th of 10th month 1704

"It is Concluded that there be a Collection this day two weeks to pay the workmen for diggeing stone to the meeting house."

5th of 11th month 1704

"Account is brought to this meeting that John Roberts received 6£ - 2s - 8d being a Legacy left to ye use of friends of this meeting which was formerly laid out upon Interest. There remaines 13s 2d in John Roberts hand and the rest was paid for diggeing stone to ye Meeting house which is lent friends untill they collect them."

Appendix C: Transcription of Selected Entries from John Roberts's Personal Account, 1712-1717

The following is a transcription of the relevant entries from the personal account of John Roberts recorded between 1712 and 1717. The following was transcribed from a photoscanned copy of the original document, John Roberts, Subscriptions collected and expenditures made towards building Merion Meeting house, 1712-1717, available for reference at the Friends Historical Library, Swarthmore College, Swarthmore, PA. The full document is also quoted in Charles H. Browning, *Welsh Settlement of Pennsylvania* (Philadelphia: William J. Campbell, 1912), 543-48.

1712 1713	Merion Meeting House		
To John Moore bill for work done	£2.	17.	9
To Edw'd Jones acct for diett, Liquor, board, and other things	[document damaged]		
. . .			
To James Thomas acct for lime		16.	1½
To John Knowles acct for carpenter work	47.	10.	7½
To Richard Jones bill for sawing	27.	8.	10
To Wm & Edw'd Rob'ts acct for ditto	2.	13.	8
To 28 bus lime & cartage . . . Owen Thomas brought	1.	19.	8
To Rob't Jones acct for sundries	5.	9.	2½
To Daniel England acct for boards &c	1.	17.	10
To Rob't Evan for ditto		7.	
To John Conor for 46 bus of lime	1.	14.	6
To John Rob'ts acct for naills &	11.	16.	2½
To Edw'd Rees acct for sundries	25.	10.	2
To Hinges had at Jno Cadd		14.	8
To John Jones carpenter acc	[document damaged]		
. . .			

[Date unknown]

	£	s	d
By cash for shingles &c	15.	1.	6.
By naills	1.	0	10
By Jno Knowles Carpenter	11.	0	9¾
. . .			
By naills		10.	
By ditto	3.	18.	4½
. . .			
By naills	3.	16.	6
. . .			
By Jno Knowles carpenter	27.	3.	10¾
. . .			
By Board from D Eng	1.	15.	4
By naills		2.	4
By ditto		17.	
By [document damaged] naills	1.	11.	2½
. . .			
By naills		4.	
By Boards & naills		14.	7
By ditto		8.	8
By Jno Jones carpenter	6.	2.	11½
. . .			
1714. 10 mo. 15. By naills 11½ lb @ 10d pr		9.	7
1715. 11 mo. 15. By 2 lb do at 9d pr		1.	6
1715. 6 mo. 20. By 11 lb naills		8.	3
6 mo. 27. By 193 foot boards		15.	6

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